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SODIUM RESTRICTION IN THE DIET FOR HYPERTENSION

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In connection with studies of experimental hypertension the effects of various types of diet on the blood pressure have been studied, including alterations in the content of vitamins, proteins, minerals and certain other dietary constituents. In the course of these investigations it was noted that diets very low in sodium content appeared to exert a hypotensive effect which was abolished by the addition of sodium chloride. The association of a low sodium content of the diet with a hypotensive response was so striking that the studies were extended to a series of patients. The results thus far obtained would appear to indicate that in certain patients this form of therapy is decidedly beneficial. The experimental basis for this work is reported elsewhere,[1] the present paper being confined to our observations on human patients only.

OBSERVATIONS ON PATIENTS

Thus far 6 subjects have been investigated while rigidly controlled in the hospital. The blood pressure was taken twice daily, at least five readings being made each time, and the results averaged. For the sake of convenience the six readings taken during each three day period have been averaged and are recorded in the accompanying charts.

The diets used in the patients were made up of foods which are naturally low in sodium content. A typical menu for a week is shown in the table. In order to provide an adequate protein intake and at the same time achieve drastic sodium restriction, it was necessary to dialyze the milk consumed by the patients. In this way it was possible to administer a 2,000 calory diet daily which contained less than 1 Gm. of sodium chloride.

In 2 of the 6 patients the blood pressure declined to essentially normal levels and promptly rose again to the pretreatment values when 20 Gm. of sodium chloride was added daily to the diet which had previously resulted in a reduction of their blood pressures (charts 1 and 2). Subsequent cessation of the use of this added sodium chloride again resulted in a decline in blood pressure, as had been noted previously.

A third patient (chart 3) displayed a moderate decline in blood pressure, but the values did not at any time approach the normal.

Another subject (chart 4) had no decline in blood pressure despite the use of the diet for several weeks.

The fifth patient had carcinoma of the liver in addition to hypertension. This person displayed practically no change in blood pressure until a collapse reaction developed, with prompt recovery following saline administration (chart 5). This subject was the only one in whom any harmful effects of rigid sodium restriction were observed. (None of the patients reported have been followed during hot weather, and it is possible that harmful effects may occur more frequently when sweating is excessive.)

The sixth patient was moribund from uremia when the diet was begun and died within three days. No conclusions can be drawn concerning the effects of the diet in this instance.

More detailed information concerning the patients is offered in the following case abstracts:

CASE 1.—E. M. B., a Negro woman aged 37, had unilateral exophthalmos and other typical manifestations of an aneurysm of the left internal carotid artery. She was known to have had hypertension for at least three years. For fifteen years she had considerable frequency and burning on urination, and these symptoms had been only partially relieved by removal of uterine myomas eleven years previously.

On admission to the hospital the systolic blood pressure was 235 mm. of mercury and the diastolic was 130 mm. The retinal arteries displayed no abnormalities. The heart was moderately enlarged. The catheterized urine showed a faint trace of albumin, a few leukocytes and a positive culture for Escherichia coli. The Wassermann reaction of the blood was positive. The highest specific gravity obtained with concentration tests (Fishberg technic) was 1.023. She excreted 70 per cent of the phenolsulfonphthalein injected within two hours.

The blood pressure record is shown in chart 1. During the control period the patient displayed a striking decline in blood pressure on rest alone. After the pressure had become stabilized at about 160/105 sodium restriction was begun and the pressure then declined to normal levels, the exophthalmos disappearing. The addition of 20 Gm. per day of sodium chloride resulted in a rapid rise in blood pressure, and at this time the unilateral exophthalmos returned. She was again put on the low sodium diet, with a decline in the blood pressure to normal values. At a later date she was allowed to begin work during the day, remaining in the hospital at night. This resulted in a slight increase in blood pressure, which was now at the upper limits of normal. When a diet consisting of the regular hospital diet without added salt was substituted for the specially selected low sodium diet there was a slight increase in the blood pressure, which rose further when 5 Gm. of sodium chloride was added

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1. Grollman, A., and Harrison, T. R.: The Effect of Drastic Sodium Restriction on the Blood Pressure and Survival in Experimental Hypertension, to be published.

to the diet. The institution of the original sodium poor diet caused the blood pressure to decline for the third time.

CASE 2.—M. L., an obese Negro woman aged 31, was known to have had hypertension for approximately six years. Her chief symptoms consisted of occasional headaches of a migrainous type. She had had suggestive manifestations of a low grade pyelitis on two occasions in the past. No significant changes were observed in the optic fundi. The heart was at the upper limits of normal in size. The maximum specific gravity of the urine was 1.034 (Fishberg technic). The catheterized urine contained 15 to 20 white blood cells per high power field and occasional red blood cells. Culture of the urine was negative. Phenolsulfonphthalein excretion was 70 per cent in two hours. patient then displayed a slow rise in blood pressure up to the level which existed prior to the sodium restriction. Institution of sodium restriction was again followed by a decline in blood pressure to within the upper limits of the normal range.

CASE 3.—M. K., a white woman aged 41, had attacks of acute pyelitis at ages 18 and 28. Following the first attack she had intermittent symptoms of cystitis until about two years prior to admission to the hospital. She was first found to have hypertension in 1941, at which time her blood pressure was 250/130. She had remained asymptomatic most of the time but had one attack of weakness of the left arm lasting three days and had experienced two syncopal attacks, during which the blood pressure was higher than the usual level. She had

*Typical Menus for the Week**

	Breakfast	Gm.	Lunch	Gm.	Supper	Gm.
Monday	Orange (juice)	50	Meat patties	50	Chicken	50
	Grapefruit (juice)	200	Macaroni	125	Peaches	50
	1 egg + 1 egg yolk		Tomatoes	75	Grapes	100
	Oatmeal	90	Lettuce	25	Apricots	200
	Dialyzed milk		Apple	100	Lemon juice	50
	Sugar	35	Grape juice	100	Sugar	25
	Coffee	as desired	Butter	10	Butter	10
Tuesday	Grape juice	200	Lamb	50	Beef patties	50
	1 egg + 1 egg yolk		Rice	125	Potatoes	125
	Farina	90	Tomatoes	75	Squash	100
	Dialyzed milk		Lettuce	25	Butter	10
	Sugar	35	Butter	10	Apples	100
	Coffee	as desired	Peaches	100	Lemon juice	50
			Orange (juice)	200	Sugar	25
Wednesday	Grapefruit (juice)	200	Butter	12	Lean steak	50
	1 egg + 1 yolk		Beef	60	Squash	100
	Rice	120	Eggplant	100	Grapefruit (juice)	60
	Dialyzed milk		Macaroni	120	Apples	100
	Sugar	38	Apricots	100	Lemon juice	50
	Coffee	as desired	Grape juice	100	Sugar	39
			Sugar	20	Butter	12
Thursday	Orange (juice)	100	Meat	65	Meat	50
	Peaches	200	Macaroni	120	Rice	120
	Oatmeal	120	Tomatoes	100	Eggplant	100
	1 egg + 1 yolk		Grape juice	200	Squash	100
	Dialyzed milk		Sugar	12	Grapefruit juice	200
	Sugar	35	Butter	12	Sugar	24
					Butter	12
Friday	Apple juice	200	Fish	75	Meat	50
	1 egg + 1 yolk		Potatoes	100	Eggplant	100
	Dialyzed milk		Tomatoes	75	Rice	120
	Sugar	32	Lettuce	25	Butter	12
	Coffee	as desired	Grapefruit juice	200	Sugar	39
	Farina	120	Butter	12	Peaches	200
			Sugar	36		
Saturday	Egg + 1 yolk		Meat	50	Meat	50
	Sugar	23	Potatoes	100	Rice	120
	Cereal (oatmeal)	120	String beans	100	Cabbage	100
	Dialyzed milk		Cabbage	100	Tomatoes	75
	Grape juice	200	Sugar	33	Lettuce	25
			Butter	12	Butter	12
			Apples	100	Sugar	27
					Lemon juice	50
					Grapefruit juice	200
Sunday	Farina	120	Lamb	50	Lean steak	50
	1 egg + 1 yolk		Potatoes	100	Rice	120
	Dialyzed milk		Eggplant	100	Tomatoes	75
	Sugar	32	Cabbage	100	Lettuce	25
	Orange (juice)	200	Butter	12	Sour cherries	100
			Lemon juice	50	Squash	100
			Fresh grapes	100	Butter	12
					Grapefruit juice	200

* Included in the diet indicated, 1,400 cc. of dialyzed milk was administered daily.

The blood pressure is shown in chart 2. Following a well defined decline in pressure, with rest in the hospital, the pressure became stabilized at a level of approximately 160 to 170 mm. systolic and 110 diastolic. Drastic restriction of sodium in the diet resulted in a decline in pressure to a level of approximately 135 to 140/100. The administration of 20 Gm. daily of sodium chloride, all other factors being kept constant, caused a rise in blood pressure to the previous level and a subsequent decline when the sodium chloride was withdrawn. In an attempt to reduce the blood pressure from the slightly elevated level of 140/100 to strictly normal values, an even more drastic regimen of sodium restriction was instituted and ammonium chloride was administered for the purpose of increasing the excretion of base. A minimal but definite decline in blood pressure occurred, and at a later date the diet was replaced by the hospital diet without the addition of salt at the table. The been under a great deal of emotional stress for a number of years. The chief findings on physical examination were as follows:

The retinal arteries showed considerable variation in caliber and had a silver wire appearance, but no papilledema, hemorrhage or exudate were noted. The blood pressure was 215/130, the heart slightly enlarged, and there was a presystolic gallop. The highest urinary concentration observed with the Fishberg technic was 1.022. Urine cultures were sterile. During the preliminary period of rest in the hospital the blood pressure was usually in the region of 200/120, with occasional elevations from this level during periods of emotional stress. On one occasion following receipt of a telegram containing disturbing news the pressure was found to be 260/155.

The blood pressure is shown in chart 3. Following the institution of drastic sodium restriction a slow decline in blood

pressure occurred, the values averaging about 160/100. Occasionally values as low as 150/90 were observed, which were decidedly lower than had been found at any time within the previous four years. Following several weeks in the hospital she was allowed to go home and to resume normal activity at a somewhat restricted level. This resulted in a slight increase in her blood pressure, which, however, did not return to a level as high as that observed at rest in the hospital prior to the institution of the sodium restriction.

CASE 4.—F. H., a white woman aged 43, had had convulsions during her first pregnancy twenty-five years previously and was told that she had an increase in blood pressure at that time. This subsided and she had no hypertension during her next two pregnancies. However, the hypertension recurred during her fourth pregnancy ten years before admission to the hospital. Two years later she began to have severe frontal headaches. For four years she had occasional attacks of precordial pressing pain radiating into the left arm and relieved by glyceryl trinitrate. Her father, two brothers and one son are known to have had hypertension. The patient was emotionally very unstable and showed a striking fluctuation of the blood pressure in relation to her emotional state. During the period of study she was

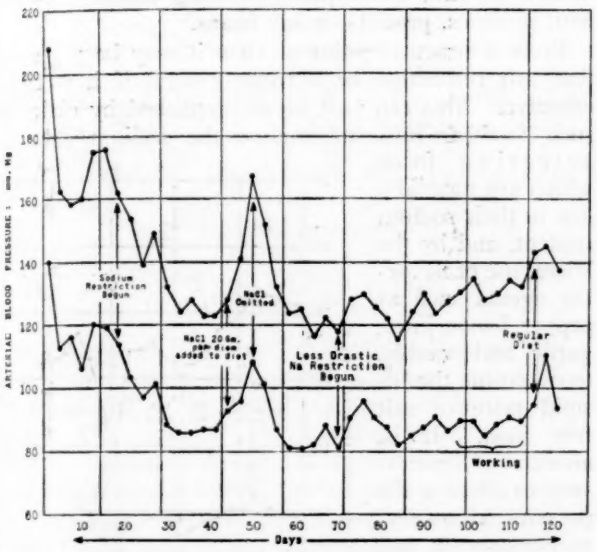

Chart 1 (case 1).—The initial decline occurring during the first three days was the result of rest in the hospital. The further decline occurred during rigid restriction of sodium in the diet. The addition of sodium chloride, the diet remaining unchanged, caused a prompt rise in the blood pressure, which again declined when salt was omitted. Liberalization of the diet and increase in activity caused increase in the blood pressure, which again declined when drastic sodium restriction was instituted.

under considerable emotional stress because of anxiety about her son, who was in active combat with the Marines.

Physical examination revealed moderate cardiac enlargement and considerable narrowing of the retinal arteries but without papilledema, hemorrhage or exudate. The maximal urinary specific gravity obtained with concentration tests was 1.017. However, she was able to excrete 80 per cent of the injected phenolsulfonphthalein. The urine contained a moderate amount of albumin and a few granular casts, but no erythrocytes or leukocytes were observed.

The patient was given a period of six weeks of drastic sodium restriction, but no significant change in the blood pressure occurred (chart 4). At the end of this time she was given 10 Gm. of sodium chloride daily in addition to that in the regular hospital diet. However, this had to be discontinued within a few days because she began to have paroxysmal nocturnal dyspnea. In this case sodium restriction was a complete failure as far as the blood pressure was concerned.

CASE 5.—W. W., a Negro man aged 36, complained of pain in the right upper quadrant and was found to have a nodular, stony-hard liver. A diagnosis of carcinoma of the liver was made and the disorder was thought to be primary, since careful studies revealed no evidence of involvement of any other organs. In addition, the patient had hypertension, which remained fairly stable during the control period at 180 to 190 systolic and 120 diastolic. There was no cardiac enlargement and the patient had no symptoms referable to his hypertension. There was 25 per cent retention of sulfobromophthalein at the end of thirty

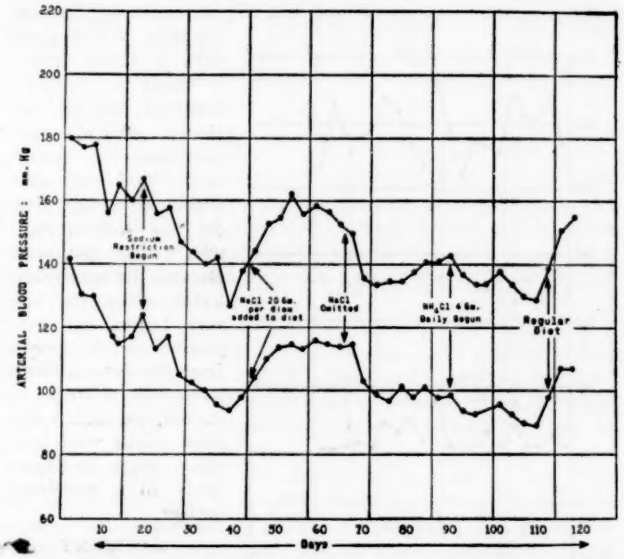

Chart 2 (case 2).—Rigid restriction of sodium, which was not begun until the pressure had become stabilized as the result of rest, caused a well defined decline in the blood pressure, which rose when sodium chloride was added to the otherwise unaltered diet. Omission of the salt led to a second decline in pressure. A slight further decline apparently occurred when ammonium chloride was administered. The pressure increased when the regular hospital diet was given and again declined when the original low sodium diet was employed.

minutes. The cephalin-cholesterol flocculation test was positive. The urine contained a few white blood cells and a moderate amount of albumin. The maximum specific gravity obtained by concentration procedures was 1.033 (Fishberg technic).

The blood pressure data are shown in chart 5. During the first several weeks of drastic sodium restriction there was only a minimal decline in the systolic pressure when the patient was on the low sodium diet, and practically no response in diastolic pressure. However, after about five weeks he developed a collapse reaction, severe cramping abdominal pain and a sharp decline in blood pressure. At this time his general condition was considerably worse than it had been before and he was given 2 liters of isotonic solution of sodium chloride daily because he could not take food or drugs orally. Following the administration of sodium chloride by infusion the blood pressure returned to the previous level. He died about two weeks later, but permission for autopsy could not be obtained. In this case, unlike cases 1, 2 and 3, in which the decline in

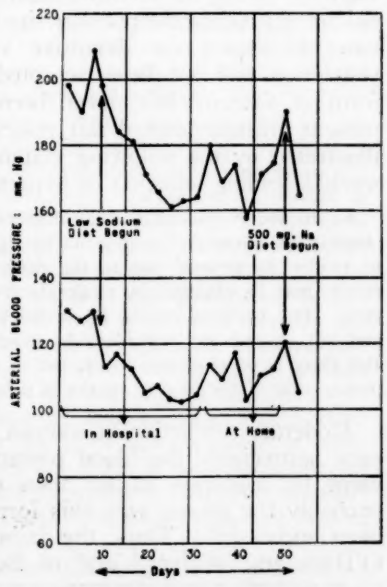

Chart 3 (case 3).—Rigid restriction of sodium was followed by a decline of approximately 35 to 20 mm. in the systolic and diastolic pressure respectively. The increase in activity when the patient was allowed to leave the hospital was attended by a rise in the blood pressure, which, however, remained below the level during the control period of rest and regular diet.

blood pressure was associated with clinical improvement, reduction in pressure was associated with deterioration of the clinical state.

CASE 6.—G. M., a white man aged 63, was admitted to the hospital in a state of advanced uremia. He was almost moribund when the low sodium diet was begun. Because of his condition a stomach tube was passed and the diet administered through the tube. Within three days a sharp decline in blood pressure occurred, but the patient's clinical state continued to deteriorate and he died within seven days after the low sodium regimen was instituted. Because he was moribund when therapy was begun, no conclusion can be drawn from the drop in blood pressure which occurred, as such a decline might well have taken place spontaneously in a moribund patient.

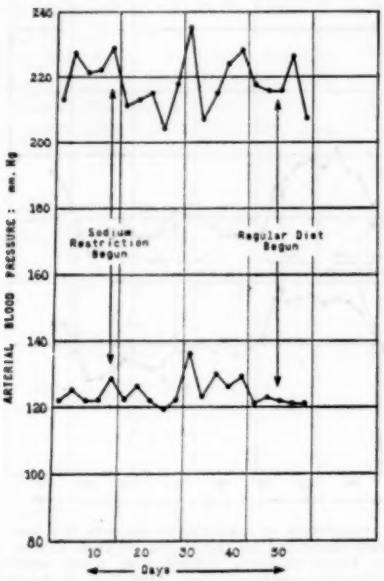

Chart 4 (case 4).—The low sodium diet was without significant effect on the blood pressure.

COMMENT

The use of a "low salt" diet as a measure in the therapeutic management of patients with hypertension is not new. It has been advocated particularly by Ambard [2] in France, Allen and Sherrill [3] in this country and Volhard [4] in Germany. These observers apparently believed that any beneficial effects observed were to be ascribed mainly to chloride restriction and apparently did not appreciate the peculiar significance of the sodium ion. However, the definitive value of drastic salt restriction has not been accepted generally, and this form of therapy has never been widely used. The present attitude toward salt restriction is perhaps best illustrated by the following statement from one of the world's leading students of hypertension: [5]

> All in all, it does not seem demonstrated that the benefits obtained in essential hypertension by rigid salt restriction suffice to render its general use in the disease worth while. Equal results may be obtained by moderate restriction of sodium chloride. The patients should be instructed to avoid salty foods and not to add any considerable quantity of salt to the food. But there is no objection to the use of sufficient salt during the preparation of the food to render it palatable.

Moderate restriction of sodium usually fails to influence appreciably the blood pressure, and the employment of moderate rather than drastic restriction is probably the reason why this form of therapy has not been successful. Thus, the failure of McLester,[6] of O'Hare and Walker [7] and of Berger and Fineberg [8] to obtain demonstrable results can probably be ascribed to the use of diets not sufficiently low in sodium content. Furthermore, the observations of Mosenthal [9] in patients and of others in experimental animals [10] that the addition of sodium chloride to the diet did not further elevate the blood pressure tended to discredit the earlier reports on the usefulness of salt restriction. Moreover, the lack of controlled observations on animals with experimental hypertension, such as are presented for the first time elsewhere,[1] militated against the acceptance of this form of therapy.

It is very probable that the incidental salt restriction is responsible for the results reported recently by Kempner [11] with the rice diet and also for the numerous responses reported to have occurred following restriction of the diet to certain fruits, vegetables, milk or periodic fasts. These results are essentially those obtainable by a more general diet equally low in sodium. In animals the addition of sufficient sodium chloride completely inhibits the hypotensive effects of a diet limited to rice, and equally striking effects are seen with potatoes, peanuts or soy beans.[1]

From a practical point of view it may be necessary that salt restriction be extremely rigid if it is to be effective. This can best be accomplished by dialyzing such food as milk to remove the sodium chloride, selecting foods which are naturally low in their sodium content, and by the liberal use of flavoring agents such as pepper, lemon juice, garlic and vanilla, to overcome the insipid taste of salt free food. It is, moreover, necessary to observe the patients closely, particularly in hot weather, for symptoms of salt deprivation.

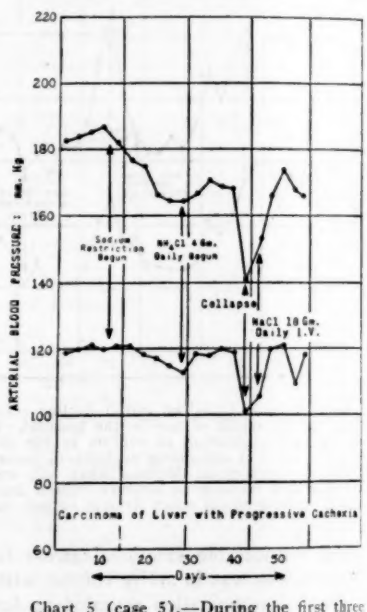

Chart 5 (case 5).—During the first three weeks of the low sodium diet only a minimal change in blood pressure occurred. The administration of ammonium chloride was apparently without effect. After five weeks on the restricted diet a sharp decline in blood pressure occurred and symptoms of collapse appeared. The administration of saline solution parenterally controlled the symptoms and restored the blood pressure to the previous level.

At the present time we have no method other than the therapeutic trial to determine which subjects will respond and which subjects will not respond to drastic sodium restriction. However, in some patients the declines in the blood pressure are striking, and in view of the relative ease with which this method can be applied it seems to offer, for certain patients, the most practical and effective therapeutic measure that is at present available.

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SUMMARY

Diets rendered low in sodium content by dialysis were found to reduce decidedly the blood pressure of rats with experimental renal hypertension. That this effect was due to the low sodium content of such diets was demonstrated. It was also shown that prolonged administration of such "low sodium" diets not only was not deleterious but apparently actually prolonged the life of the experimental hypertensive animal.[1]

In 6 human hypertensive patients a drastic reduction in the sodium intake, made possible by dialysis of the milk included in the diet, resulted in no decline in blood pressure in 1 subject, a reduction of the pressure to essentially normal levels in 2 and a moderate reduction in the remaining 3, 1 of whom, however, displayed acute circulatory collapse which responded promptly to sodium chloride therapy. It is suggested that such diets be utilized for a brief trial period for patients with hypertension and employed for a longer period in subjects who display a favorable response.

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THE RELATIONSHIP OF THE ADRENAL CORTEX TO HYPERTENSION

OBSERVATIONS ON THE EFFECT OF HYPOADRENALISM ON A PATIENT WITH HYPERTENSIVE VASCULAR DISEASE

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As a result of the work of Goldblatt and his associates,[1] emphasis has been placed in recent years on the role of the kidney in the pathogenesis of both experimental and essential hypertension. However, the absence of recognizable signs of impaired renal function or of significant anatomic change early in the course of hypertensive vascular disease has been advanced as an argument against renal ischemia as the primary cause of this disorder in man.[2]

There is considerable evidence that the adrenal cortex plays a part in the regulation of the arterial blood pressure. Hypertension may be a manifestation of certain adrenal cortical tumors, and hypotension is a frequent observation in Addison's disease even after restoration of electrolyte and water balance by appropriate therapy. Desoxycorticosterone acetate has been found capable of producing hypertension in some patients with hypoadrenalism and of raising the blood pressure in others without renal or endocrine disease.[3] The administration of adrenocorticotropic hormone has reestablished the blood pressure of hypertensive rats when depressed by hypophysectomy.[4] And lastly, bilateral adrenalectomy interferes with the development and maintenance of experimental renal hypertension unless cortical hormone replacement therapy is instituted.[5]

There are no reports of successful bilateral adrenalectomy in man, but the occasion has recently presented itself to follow the course of a patient with documented essential hypertension who subsequently developed hypoadrenalism. The purpose of this paper is to show the effect of adequate replacement therapy, first with desoxycorticosterone acetate[6] and then with salt alone, on the blood pressure.

REPORT OF CASE

L. D., a white man aged 50, American born, a merchant, was first seen at the Presbyterian Hospital in 1939. There was no family history of hypertension or renal disease, and he knew of no exposure to tuberculosis. His past history, except for childhood diphtheria and uncomplicated scarlet fever at the age of 21, was noncontributory.

In 1936, three years before, he had reported to his local physician a transient episode of dyspnea and was told that his blood pressure was 160/110. During the next three years he was seen by several physicians, who found blood pressure levels consistently above 140/100. His only complaint was of moderate exertional dyspnea.

Three months before admission to the hospital, in July 1939, the patient developed progressive weakness and one episode of nausea and vomiting. Physical examination on admission revealed that the patient was well developed, was afebrile and had extensive brownish pigmentation, most pronounced over the face, neck, forearms and hands. No buccal pigmentation was noted. The blood pressure was 140/105. The retinal vessels exhibited moderate tortuosity and compression of the veins where crossed by arteries. The heart was enlarged to the left on percussion; the second aortic sound was louder than the second sound over the pulmonic area; no murmurs were heard. The remainder of the examination was within normal limits. Pertinent laboratory data included repeated normal urinalyses and a serum sodium determination of 134.1 milliequivalents per liter. The lungs were clear by x-ray, and the adrenal area showed no abnormal calcification. A 2 meter film of the heart revealed a cardiothoracic ratio of 12.9/22.9, and an electrocardiogram recorded left axis deviation and slight notching of the ventricular complexes. X-ray of the kidneys showed them to be normal in size, shape and position.

The diagnosis of Addison's disease was confirmed by salt withdrawal, with the development of increasing weakness, a drop in blood pressure to 88/66 and a serum sodium which fell to 129.8 milliequivalents per liter. The patient responded to treatment with desoxycorticosterone acetate with disappearance of all symptoms, a return of the serum sodium concentration to normal and the reappearance of hypertension.

For the next six years the patient was followed in the outpatient department at intervals rarely in excess of three months, as shown in the chart. Repeated blood pressure readings were taken in the sitting position at each visit by one of a small group of observers. Except for one hospital admission with an acute respiratory infection and fever of 104 F., during which his blood pressure fell to 110/70, he was maintained in water and electrolyte balance with 2 to 3 mg. of desoxycorticosterone and exhibited a persistent hypertension. Systolic pressures ranged from 134 to 180, diastolic values always above 90 mm. of mercury.

During this period he remained in reasonably good health but for occasional exertional dyspnea. He experienced no cardiac pain or edema, and examination of the fundi showed no pro-

From the Department of Medicine, Columbia University College of Physicians and Surgeons, and the Presbyterian Hospital.

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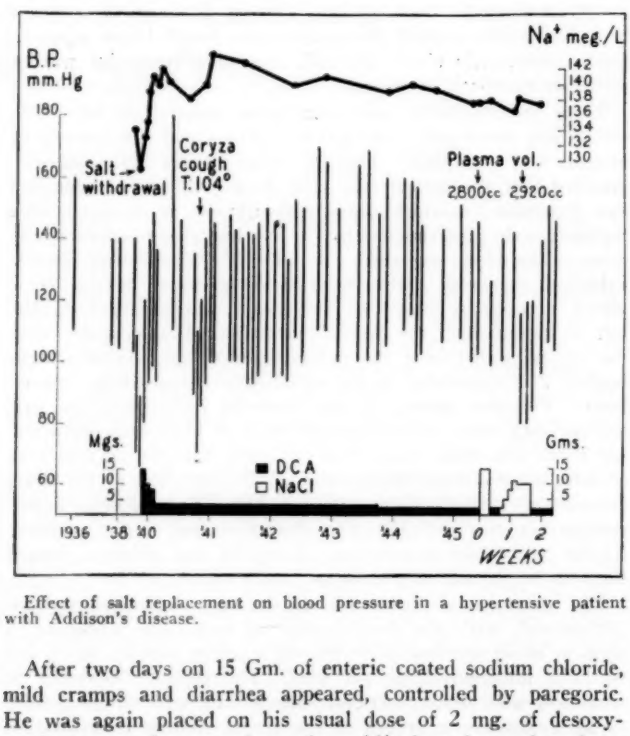
6. Desoxycorticosterone acetate (Doca) was furnished through the generosity of Dr. L. A. Pirk of Roche-Organon, Inc., Nutley, N. J.

gressive changes. Occasional slight albuminuria appeared after several years, and rare red cells were present in the urine during the last year of observation. Annual electrocardiograms continued to show left axis deviation and T_3 became inverted. Frequent serum sodium determinations were made and were invariably normal or slightly above. These measurements were made either directly [7] or at times—in the absence of nitrogen retention—indirectly by the summation of the carbon dioxide content and the chlorine concentration, both expressed as milliequivalents per liter, plus 10.[8]

After a preliminary serum sodium determination (137.8 milliequivalents per liter) and measurement of the plasma volume (2,840 cc. as compared to a predicted normal, based on weight, of 2,970 cc.) desoxycorticosterone was withdrawn and the patient maintained on daily oral doses of sodium chloride in excess of that in the diet. The plasma volume was determined after thirty minutes in the horizontal position with the blue dye T. 1824 and calculated from the optical density, measured with the photoelectric colorimeter, of a serum sample drawn ten minutes after injection of the dye.[9]



Effect of salt replacement on blood pressure in a hypertensive patient with Addison's disease.

After two days on 15 Gm. of enteric coated sodium chloride, mild cramps and diarrhea appeared, controlled by paregoric. He was again placed on his usual dose of 2 mg. of desoxycorticosterone for two days, then shifted to increasing doses of sodium chloride in drinking water and added to the diet for a period of one week. Throughout this time he remained ambulatory and made frequent visits to the clinic, where temperature, weight, blood pressure and other data were secured.

With no signs or symptoms of adrenal cortical insufficiency, fever, significant weight change and with no fall in serum sodium concentration below normal, the patient's blood pressure dropped to 116/80 after four days, at which time the plasma volume was again determined (2,920 cc. as compared to the original value of 2,840 cc.). At the completion of one week on sodium chloride, with blood pressures still within normal limits, desoxycorticosterone was resumed and hypertension reappeared within a few days. A subsequent electrocardiogram showed nothing to suggest that the drop in pressure had been due to a myocardial infarction.

7. Butler, A. M., and Tuthill, E.: An Application of the Uranyl Zinc Acetate Method for Determination of Sodium in Biological Material, J. Biol. Chem. **93**: 171-180 (Sept.) 1931.

8. Loeb, R. F.: Diseases of the Adrenals, in Christian, H. A., and Mackenzie, J.: Oxford Medicine, New York, Oxford University Press, 1921, vol. 3, p. 804 (5).

9. Gibson, J. G., 2d, and Evelyn, K. A.: Clinical Studies of the Blood Volume: IV. Adaptation of the Method to the Photoelectric Microcolorimeter, J. Clin. Investigation **17**: 153-158 (March) 1938.

COMMENT

The repeated finding of hypertension in this patient by multiple observers, in the absence of demonstrable renal disease and with associated slight cardiac enlargement and left axis deviation by electrocardiogram, leaves little doubt that he had essential hypertension. The subsequent development of Addison's disease was established clinically as well as chemically by a pronounced decrease in serum sodium concentration as a result of the withdrawal of salt from the diet.

Throughout a period of observation of about six years, more than three years after hypertension was first recorded, this patient maintained an elevated blood pressure even after the appearance of hypoadrenalism treated with desoxycorticosterone. The sole exceptions occurred during the initial period of adrenal cortical insufficiency and during a febrile episode due to a respiratory infection, at which times the blood pressure fell to normal or below.

Evidence is presented that the maintenance of hypertension in this patient was apparently dependent on the administration of desoxycorticosterone. Thus, when he was given sodium chloride alone, but in sufficient quantity to maintain a normal serum sodium concentration and a normal plasma volume, the hypertensive state disappeared, only to return with the readministration of desoxycorticosterone.

One can only speculate as to whether a primary mechanism is involved or whether the adrenal cortex operates through a renal or some other mechanism. The fact that desoxycorticosterone has pressor potentialities raises the question whether the abnormal liberation of certain adrenal cortical hormones may be concerned in the etiology of hypertension even though consistent anatomic change is not apparent. The sequence of events in this patient suggests that the adrenal cortex may be essential for the development or maintenance of simple hypertension in man.

CONCLUSION

1. A patient with documented hypertension, who subsequently developed hypoadrenalism, showed a persistent elevation of blood pressure while under treatment with desoxycorticosterone.

2. Replacement therapy with salt alone, even though the patient was maintained in water and electrolyte balance, resulted in a drop in blood pressure to normal limits.

3. This suggests that the adrenal cortex may be important for the development or maintenance of essential hypertension in man.

620 West 168th Street.

Beginnings of Intra-Abdominal Uterine Surgery.—The earlier laparotomies undertaken for the removal of ovarian cysts not infrequently revealed the presence of large fibroid masses. In the majority of instances these masses were left undisturbed, though often they were punctured and dry taps resulted. Thus uterine surgery began as a result of diagnostic error. A. A. Boinet in an article read before the Paris Academy of Medicine (1870) cited fourteen instances of laparotomies undertaken for the removal of ovarian cysts, which proved, instead, to be large fibroid uteri, and his list is not all inclusive. Boinet assigned the first diagnostic error to John Lizars (1825). It is possible that Ephraim McDowell, the father of ovariotomy, was dealing with fibroid growths in the second and fourth cases of his series, and A. B. Granville's description of his second failure strongly suggests that he was dealing with a fibroid rather than an ovarian cyst (1826). In none of the cases cited by Boinet was the fibroid growth removed.—Ricci, James V.: One Hundred Years of Gynaecology, Philadelphia, Blakiston Company, 1945.

PERTUSSIS IMMUNIZATION PROGRAM OF THE BOSTON HEALTH DEPARTMENT

THE COMPARATIVE VALUE OF TWO DIFFERENT ANTIGENS

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GENERAL PLAN OF THE IMMUNIZATION PROGRAM

In March 1942 the Boston Health Department instituted a pertussis immunization program in an effort to protect children against pertussis during the earlier months of their lives. All presumably susceptible infants between the ages of 6 and 12 months were eligible to receive prophylactic inoculations against pertussis at their local well baby clinic. The well baby clinics are located in the health units and substations situated in eighteen different geographic districts of the city and are accessible to all who wish to take advantage of their services.

Two different antigens, the Parke Davis Sauer vaccine and the Lederle Detoxified Pertussis Antigen, were used for immunization. The former is a killed bacterial suspension of phase I Hemophilus pertussis cultures grown on Bordet-Gengou medium containing at least 15 per cent of human (placental) blood made up to a concentration of 15 billion bacilli per cubic centimeter. The latter is a formolized sterile toxic filtrate made from the growth of selected toxic and antigenic cultures of H. pertussis in a buffered beef heart infusion containing 2 per cent peptone and 0.1 per cent soluble starch adjusted to p_H 7.8. The Boston Health Department purchased both antigens in the open market.

Approximately half of the babies were inoculated with the Sauer vaccine and the other half with the Lederle Antigen. The total dosage for each antigen was 6 cc. The intervals between the injections were three weeks, the standard dosage for the Lederle Antigen being 2 cc. for each injection, whereas Sauer's vaccine was administered in 1, 2 and 3 cc. amounts respectively. The injections were given by the health department physicians regularly in attendance at the well baby conferences and the records of the injections were diligently kept by the nursing staff. On completion of the immunization series a card giving the essential data of immunization for each child was forwarded to the Division of Child Hygiene, where it was filed as a permanent record of immunization.

GENERAL PLAN OF INVESTIGATION

At the end of the second year of the pertussis immunization program it was deemed advisable to evaluate the program and to compare the efficacy of the Lederle Antigen with that of Sauer's vaccine. Since such an evaluation could be made only through a field survey, the aid of the Nursing Division was enlisted in the collection of the data.

First, the immunization record cards for every child who had been immunized during the years 1942 and 1943 was forwarded to the medical inspector of his respective health unit, together with an adequate number of survey forms. (A sample form is shown in the accompanying questionnaire.)

SAMPLE QUESTIONNAIRE
USED IN
PERTUSSIS IMMUNIZATION STUDY

Name of child.....Age.....
Address .....Station .....
Type of antigen used.....Dates of inoculation: 1st.....
2d.....
3d.....

Was child exposed to whooping cough after immunization?.....
Place of exposure: In family.....
Other household .....
Indefinite .....
Brief explanation of exposure.....
Did child contract whooping cough since immunization?.....
Date of onset.....
Virulence of disease: Very mild.....
Mild .....
Moderate .....
Severe .....
If child had whooping cough, was there a physician in attendance?.....
Give number of children in same family in same general age group who have not been immunized: Number.....
Were any of these children exposed to whooping cough?.....Number.....
Did any of them develop whooping cough?..... Number.....
Signature of nurse.....

The medical inspector then instructed the clerk of each health unit to transfer the information from the record cards to the survey forms. After these data had been recorded, the survey forms were turned over to the supervising nurse in the health unit or substation. Miss Wedgewood, the director of nurses, instructed the supervisors to distribute these forms to the general nursing staff for completion. The nurses obtained the necessary information by questioning the parents, guardian or other responsible family members of the immunized children.

SIZE OF SAMPLE AND PERIOD OF OBSERVATION

Although approximately 5,000 infants were immunized during the years 1942 and 1943, only 3,006 of these children were visited between March 1 and April 21, 1944, the period of the field study. The total period of observation extended over two years, but only a small percentage of our group experienced a whole two years risk of 33,298 months, or an average of 11.1 months per child. In the Sauer injected group, 1,871 children had 19,458 months of experience, or an average of 10.4 months per child; the 1,135 Lederle injected children were at risk for 13,839 months, or an average of 12.7 months per child. The average period of observation for the whole group was therefore 11.1 months per child. There were no children under observation for less than four months; about 8 per cent of the children were under observation for less than six months, while more than 70 per cent were under observation for twelve or more months. These facts are recorded in table 1. This table discloses that, although

TABLE 1.—*Number of Children in Study Group and Length of Experience or Risk Following Immunization*

	Number of Children and Period of Observation			
			Months of Risk	
Groups	Persons	Person-Years at Risk	Number	Average per Person
Both groups.....	3,006	2,775	33,298	11.1
Sauer.....	1,871	1,622	19,458	10.4
Lederle.....	1,135	1,153	13,840	12.7

the group injected with the Sauer vaccine is larger than the group injected with the Lederle Antigen, the children injected with the Lederle product have had a somewhat larger period of risk per person. We observed that more children were being immunized with Sauer's vaccine during the second year of our study, since it was the usual practice for one full time physician to use Sauer's vaccine, whereas the pediatrician employed on a part time basis utilized the Lederle Antigen for immunization.

TABLE 2.—*Incidence of Pertussis in Sauer-Immunized and Lederle-Immunized Groups Based on Period at Risk*

Groups	Number of Children	Person-Years	Number of Cases	Annual Pertussis Attack Rate per 1,000
Both groups	3,006	2,775	40	14.4
Lederle-immunized	1,135	1,153	34	29.5
Sauer-immunized	1,871	1,622	6	3.7

INCIDENCE OF PERTUSSIS IN BOTH GROUPS

The diagnosis of pertussis in this study was necessarily based on the clinical histories obtained and recorded by visiting nurses. We recognize, of course, the difficulties associated with diagnosis, especially when the illness is very mild. Nevertheless the possibility of overlooking cases in our study was small, since we were dealing with very young children who usually experience a typical course of illness. The ameliorative effect of immunization may, however, contribute toward the missing of some mild cases.

There were 6 cases of pertussis in the Sauer immunized group, representing a total of 1,622 person-years experience. The 34 cases in the Lederle-immunized group experienced a total of 1,153 person-years risk. In other words, there were 3.7 annual cases of pertussis per thousand in the Sauer-immunized group as compared with 29.5 annual cases of pertussis per thousand in the Lederle-immunized group. The difference of 25.8 is significant. The data relative to the incidence of pertussis are shown in table 2.

TABLE 3.—*A Correlation of Exposures with Subsequent Attacks in Sauer-Immunized and Lederle-Immunized Children*

	Sauer-Immunized Group			Lederle-Immunized Group			Both Groups		
Exposure	No. of Exposures	No. of Cases	Per Cent	No. of Exposures	No. of Cases	Per Cent	No. of Exposures	No. of Cases	Per Cent
Definite in own household	18	5	27.7	19	16	84.2	37	21	56.7
Definite in other household	39	0	0.0	30	13	43.3	69	13	18.8
Indefinite	8	1	12.5	10	5	50.0	18	6	33.1
Total	65	6	9.2	59	34	67.6	124	40	32.3

In order to rate the efficacy of the immunization, the nurses obtained histories of exposure sufficiently accurate to be acceptable as a basis for determining what percentage of the exposed immunized children were protected against the disease. Frequently the nurses were familiar with the circumstances of exposure as a result of their periodic house visits. This naturally aided in the accuracy of their reports. Also, since an explanation of the exposure was always given on the survey forms, we were able to check the classification of the exposure as "definite" or "indefinite." The only exposures considered "definite" were these occurring indoors, in the child's own household or in another household where there was intimate contact with the patient during the infectious period. The "indefinite" exposures were those occurring under less intimate conditions as, for example, playing outdoors with a source patient. An analysis of the types of exposure, correlated with the subsequent attacks, is given in table 3.

SEVERITY OF ATTACKS OF PERTUSSIS

A percentage analysis of the 40 attacks of pertussis, classified in the various severity ratings, is given in table 4. It may be noted that most of the attacks were mild, the moderate and severe cases being in the minority. Thus, in the total immunized group, 65.6 per cent of the attacks were either very mild or mild, 17.1 per cent were moderate and 17.1 per cent were severe. Since there were so few cases in the Sauer-immunized group, the cases in the Lederle-immunized group influenced these figures to a large extent. Apparently, even though the Lederle-immunized children were not very well protected against the invasion of the pertussis organism, the effects of the disease were ameliorated in a majority of the cases.

TABLE 4.—*Severity of Pertussis Attacks in the Sauer-Immunized and Lederle-Immunized Groups*

	Number and per Cent of Attacks					
	Sauer-Immunized		Lederle-Immunized		Both Groups	
Severity Rating	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total attacks	6		34		40	
Rated attacks	6	100.0	29	100.0	35	100.0
Very mild	1	16.7	9	31.0	10	28.6
Mild	3	50.0	10	34.8	13	37.1
Moderate	0	0.0	6	20.7	6	17.1
Severe	2	33.5	4	13.5	6	17.1
Not rated	0		5		5	

INTERPRETATION OF RESULTS

Since the two immunized groups were comparable in age, size, average period of risk per child, economic status, health and geographic distribution, any conclusions based on a comparison of the results obtained in our investigation may be considered valid. It is therefore significant to note that the Sauer-immunized group had an exceedingly low attack rate as compared with the Lederle-immunized group. Obviously the "toxoid" affords less protection than the bacterial vaccine against the attack of pertussis, even though it has been shown that the majority of cases in the Lederle-immunized children were of a mild nature. The Sauer vaccine affords excellent protection for at least one to two years, the period of observation in our study.

COMPARISON OF IMMUNIZED GROUP WITH NONIMMUNIZED CONTROL GROUP

In order to obtain a control for the immunized group of children, the nurses participating in our survey listed the siblings of the children in our study who had never been immunized against pertussis. Those siblings who were in the same general age group as the immunized children were selected for the control group. The age range allowed was from six months to six years. Infor-

mation relative to exposure to pertussis and the subsequent development of the disease was recorded on the survey forms. We recognize that it was impossible to select a control group equally comparable in age and geographic distribution to the study children but, nevertheless, we did obtain a reasonably suitable group.

In general, the control group selected was smaller and was largely composed of somewhat older children.

TABLE 5.—*Incidence of Pertussis in the Immunized and Control Groups Based on the Period at Risk*

Groups	Number of Children	Person-Years	Number of Cases	Annual Pertussis Attack Rate per 1,000
Immunized	3,006	2,775	40	14.4
Sauer	1,871	1,622	6	3.7
Lederle	1,135	1,153	34	29.5
Control	905	3,620	298	82.3
Both groups	3,911	6,395	338	52.8

However, comparing the experiences of the control group with the immunized group on a person-year basis we obtained statistically significant data. A total of 905 children with an average age of 4 years and 7 months made up our control group. Since the average age at immunization of the injected children was 7.6 months, we may consider the average period of risk per child in the control group as four years. The total person-years experience was therefore 3,620, as compared with 2,775 person-year experience in the entire immunized group. We must take into consideration, however, the fact that the pertussis incidence between 1½ and 4 years of age is approximately three times the normal incidence during the first year and one-half of life. We would normally expect, therefore, that the pertussis incidence or attack rate in the control group would be about three times that in the study group.

A comparison of the annual attack rate per thousand in the study and the control groups is shown in table 5.

We may note in table 6 that the incidence in the immunized group was about one-sixth that of the control, or approximately half of the expected incidence

TABLE 6.—*A Correlation of Exposures with Subsequent Attacks in the Immunized and Control Groups*

Groups	Number of Children	Number Exposed	Per Cent of Children Exposed	Number of Cases	Per Cent of Exposed Children Attacked
Immunized	3,006	124	4.1	40	32.3
Sauer	1,871	65	3.5	6	9.2
Lederle	1,135	59	5.2	34	57.6
Control	905	360	39.8	298	82.8
Both groups	3,911	484	12.4	338	69.8

in a similar nonimmunized group of the same age range. However, further observation reveals that the decrease in incidence was contributed largely by the Sauer-immunized group, since the Lederle-immunized group showed an attack rate that would be expected in a nonprotected group of this age. This, therefore, is additional evidence that a bacterial vaccine is more effective than pertussis "toxoid" for prophylaxis against pertussis.

PERTUSSIS INCIDENCE IN THE IMMUNIZED AND CONTROL GROUPS CORRELATED WITH EXPOSURE

It is possible also to compare the immunized and control groups on the basis of the number of attacks occurring subsequent to exposure to pertussis. However, we must take into account the fact that the average risk per child in the control group is greater than that in the immunized group, since some children in the former group may have experienced uneventful exposures prior to the one which resulted in the attack recorded in our study. We have tabulated the data relevant to exposure for the immunized and control groups in table 6.

The tabulation shows that a greater percentage of the control children were exposed, as could be expected. The percentage of exposed control children attacked was not significantly greater than that of the exposed Lederle-immunized children when we take into account the period of risk per child in these groups. There was a sharp contrast, however, in the percentage of exposed Sauer-immunized children attacks as compared with the exposed control group. Consequently it was the Sauer-immunized children who contributed to the reduction in the proportion of the exposed immunized group attacked with pertussis.

SUMMARY

A study of 3,006 children immunized at the Well Baby Clinics of the Boston Health Department during 1942 and 1943 was made. Of these children 1,871 had been inoculated with Sauer's bacterial vaccine and were at risk for 19,458 months, or an average of 10.4 months per child; the other 1,135 children had been inoculated with the Lederle Detoxified Pertussis Antigen and had experienced 13,839 months of risk, or an average of 12.7 months per child. The average age at immunization was approximately 7 months. Susceptible nonimmunized siblings of the inoculated children were selected for a control group. The control group consisted of 905 children with a total of 3,620 person-years experience, or an average period of risk of four years per child.

In the Sauer-immunized group there were 65 exposures resulting in 6 attacks of pertussis, in the Lederle-immunized group there were 59 exposures resulting in 34 attacks of pertussis and in the control group there were 360 exposures resulting in 298 attacks of pertussis. In other words, 9.2 per cent of exposed Sauer-immunized children contracted pertussis; 67.6 per cent of exposed Lederle-immunized children contracted pertussis, and 82.8 per cent of exposed, nonimmunized susceptible control children came down with pertussis. Apparently the Sauer vaccine affords excellent protection for at least one to two years, the period of observation in our study.

The severity of the pertussis attacks was rated as very mild, mild, moderate or severe. The number of attacks in the Sauer-immunized group was too small to rate for severity. Of the 34 cases occurring in the Lederle-immunized children 31.0 per cent were very mild, 34.8 per cent were mild, 20.7 per cent were moderate and 13.5 per cent were severe. It appears therefore that even though immunization with the "Detoxified Pertussis Antigen" is less effective as a prophylactic agent than a bacterial vaccine, it serves to modify the clinical course of the disease in a majority of cases.

SPONTANEOUS ABORTION

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Pregnancy may end in one of several ways: (1) death of the mother before delivery, (2) resorption of the fetus, (3) abortion, (4) premature delivery and (5) labor at term. In rare cases of missed abortion or abdominal pregnancy it may continue indefinitely, and sometimes even when the child is within the uterus it may last unduly long.

Resorption of the fetus occurs frequently in laboratory animals when deprived of either vitmain A or vitamin E. There may be other causes. No doubt it happens also in human beings and probably more frequently than we think. The following case, which came under our observation recently, is typical:

> The patient, who was in the Women's Marine Corps, was 27 years old. Her family and past history were negative. She began menstruating at 12 years. The menses occurred every thirty days and lasted seven days. There was slight dysmenorrhea, no leukorrhea. She was married on Nov. 17, 1944. Her menses in December (16-22) were normal in every way. When she failed to menstruate in January she consulted the gynecologist at the Naval Dispensary Annex in Washington, who, after an examination, thought that she was pregnant. A Friedman test confirmed his suspicions, and accordingly she was discharged from the service. She consulted us on May 11, 1945. She had menstruated in February, March and April. She had an excellent appetite and was feeling fine. Examination was entirely negative; her weight was 121 pounds (55 Kg.), height 5 feet 2 inches (157 cm.), blood pressure 114/60. The vaginal mucosa was pink, and the uterus was small, firm and anteflexed. The patient was astounded when told that she was no longer pregnant and insisted on a second Friedman test. This time the test was negative.

However, it is the group who give more obvious signs of the early termination of pregnancy that we wish to discuss at this time. For several years it has seemed to us that we were having more abortions than our share. Almost always we have a patient in the hospital who is threatening to abort. We realize that patients are consulting obstetricians earlier in pregnancy than ever before. Eight or ten years ago many patients who aborted early did not even consult a doctor. Now they are more interested in reproduction, and many come for preconceptional and even premarital examinations. Probably the seeming increase in the rate of abortions is not real, but the problem is a real one, especially for the previously sterile patient.

The abortion rate is difficult to determine. Taussig [1] estimated that from 600,000 to 700,000 abortions occurred each year in the United States. He arrived at this figure by calculating 1 abortion for every 2.5 confinements in urban areas, and 1 for every 5 confinements in rural areas. It is thought that his ratio is too high and that 1 abortion to every 6 confinements is more nearly correct. Wiehl and Berry [2] found a fairly constant proportion of abortions and stillbirths in the various hospital and clinic studies, i. e. 2.6 per cent stillbirths and 12.1 per cent abortions (spontaneous and induced). Whelpton,[3] in a study of the reproductive habits of white Protestant couples in Indianapolis who had been married eleven to fifteen years and who had completed the eighth grade at school, found that unintentional abortion increased fairly steadily from 6.2 per cent among women with one pregnancy to 18.8 or 21 per cent among those pregnant seven times or more.

Anatomists and embryologists, on the other hand, find a surprisingly high percentage of defective ova in early conceptuses. Rock and Hertig,[4] for instance, in 17 human embryos obtained before the mother had time to miss a period noted that 5 were so defective that they could not have developed. In other words, 42 per cent of embryos were defective at the very beginning. If this holds good for a larger series, the foregoing estimates of the frequency of abortions are too low.

In an effort to gain some idea as to the frequency of spontaneous abortion and also to see if the group that aborted had any clinical characteristics, we have selected for study the histories of the last 1,000 pregnancies whose termination has been under our care. We recognize that there is some objection to this manner of selection, for some of the pregnancies, chiefly consultation cases, came under our observation only at the end of their pregnancy. It is quite obvious that, had the entire series been made up of such cases, the incidence of abortion would have been nil. On the other hand, some (17 to be exact) of the abortion cases were also consultation cases, which counterbalances in a measure the unfavorable selection caused by consultations late in pregnancy. An ideal group of cases for such a study as this would be composed of those which had been under observation from the premarital examination until they had passed their childbearing period. We know of no such study, and we certainly have no such series. We have checked the histories of 250 married patients who have passed the menopause. These 250 women had 596 children and 182 abortions. This is an average of 2.38 children and 0.73 abortion per mother. There was 1 abortion in every 4.28 pregnancies.

The first of the thousand consecutive cases came under our care in June 1943, and the last delivery was on May 8, 1945. There were 107 abortions. One patient died undelivered of a gas bacillus infection. A criminal abortion had been attempted on her and she rightfully belongs in the abortion group. This, by the way, was the only maternal death in the series. There was 1 other criminal abortion in the group. The patient also had a gas bacillus infection but recovered. Twelve were therapeutic abortions and 94 were spontaneous abortions. Five therapeutic abortions were done for hypertension. Four of the 5 had a history of toxic pregnancies. Two were done for hepatitis. In both, gallbladder operations had been done. Both patients were jaundiced, and both were extremely nauseated. One still had a biliary fistula. Both improved greatly after the abortion. One abortion was done on account of tuberculosis, and 1 for heart disease. One was a mental case and 1 had otosclerosis. One had diabetes and was not doing well.

The number of previous children and abortions are shown in the tables. It is evident that as the parity increased there was an increase in the percentage of abortions. This tendency is more obvious in the table for abortions. We have always entertained the idea that there was a group of patients with immature generative organs who were apt to abort with their first

1. Taussig, F. J.: Abortion, Spontaneous and Induced, St. Louis, C. V. Mosby Company, 1936.
2. Wiehl, D. C., and Berry, Kingsley, cited by Dunn, H. L.: The Abortion Problem, Baltimore, Williams & Wilkins Company, p. 10.
3. Whelpton, P. K., cited by Dunn, p. 15.
4. Rock, John, cited by Dunn, p. 66.

pregnancy. After that they would go through with their subsequent pregnancies without any trouble. Four hundred and eighty patients in this series were pregnant for the first time, and of these 49 aborted spontaneously. However, as only 10.2 per cent of the primigravidas aborted spontaneously as compared with 9.4 per cent of the whole series, this group does not seem to be important numerically.

TABLE 1.—*Number of Previous Children*

Previous Children	Term		Total Abortions		Spontaneous Abortions	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total.....	893		108		95	
0	503	56.3	42	38.8	37	39.3
1	239	27.7	31	28.7	27	28.7
2	86	9.6	22	20.4	20	21.2
3	35	3.9	8	7.5	6	6.2
4	14	1.5	2	1.8	2	2.1
5	7	0.7	1	0.9	1	1.1
6	3	0.3	1	0.9	0	0
7	3	0.3	..	...	0	0
8	2	0.2	..	...	0	0
9 or more	1	0.1	..	...	..	...
Not stated	..	...	..	0.9	1	1.1

In addition to the 108 abortions there were 66 threatened abortions in which some vaginal bleeding was present with or without cramps sometime during the pregnancy. In the great majority this occurred in the first trimester. The ones who were admitted to the hospital were treated by bed rest and progesterone intramuscularly. The ones who remained at home were treated with bed rest and progesterone orally. In addition, there were 2 patients with early rupture of membranes. They had a few abdominal cramps but no bleeding.

The first was a 24 year old primigravida who was due by Naegele's rule on June 17, 1945. On January 24 the waters broke and she was admitted to the hospital. The p_H of the fluid that was coming from her cervix was 7.5. On February 6 she was discharged from the hospital with instructions to remain in bed. She was readmitted to the hospital April 7 in labor and delivered a 3 pound 15 ounce (1,786 Gm.) girl. The mother was discharged on April 14 and the baby several weeks later, when it weighed 5 pounds (2,268 Gm.).

TABLE 2.—*Number of Previous Abortions*

	Term		Total Abortions		Spontaneous Abortions	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total.....	893		108		95	
0	744	83.3	64	59.2	56	59.5
1	115	12.8	30	27.7	25	26.6
2	23	2.5	7	6.5	7	7.5
3	7	0.8	3	2.7	2	2.1
4	3	0.2	1	0.9	1	1.0
5	1	0.1	1	0.9	1	1.0
6	0	0	1	0.9	1	1.0
Unstated	0	0	1	0.9	1	1.0

The second patient, a 34 year old secundigravida, was due on May 26, 1944. Her membranes ruptured on January 21, following a sudden death in her family. She was treated in the hospital for ten days and then in her home and was delivered of a full term girl on May 27, 1944.

If we add these 68 to the 94 who aborted spontaneously, we have a total of 162. This gives us a therapeutic achievement in treating threatening abortion of only 43 per cent.

Uterine bleeding in early pregnancy may be due to a partial separation of the placenta or the death of the fetus. In the latter event we are a week or ten days too late with our treatment when the bleeding begins. When we are dealing with habitual aborters, treatment should be started as early in pregnancy as possible. Quigley [5] had excellent results in 30 cases of habitual abortion. He emphasized the importance of beginning treatment early. In this connnection one should bear in mind that there is always the possibility of carrying to a viable age a deformed baby who otherwise would have perished early in pregnancy.

The average age of the aborters was 31.8 years, the extremes being 18 and 43 years. The average age of those who did not abort was 27.07, the extremes being 13 and 44 years. Marital status was unimportant. There were 64 unmarried persons in the series and, except for the 2 who had a criminal abortion performed, all went to term. Likewise, syphilis was not an etiologic factor. Two women had positive serologic reactions for syphilis. One was treated and had a premature live baby. The other was not treated, and she gave birth to a premature macerated fetus. One husband was known to have syphilis. The wife's blood was negative. Nevertheless, she was treated and she had a full term live baby.

The smoking habits of 645 patients were noted. In the full term group there were 207 who smoked and 382 who did not smoke. The 207 smoked 2,042 cigarets a day, or an average of 9.8. Thirty-eight of 56 aborters smoked, and these smoked 419 cigarets a day, or an average of 10.

Ninety-four of the thousand weighed more than the maximum figure of insurance weight table for their age and height. Of these, 2 were in the therapeutic abortion group and 11 were in the spontaneous abortion group. Eighty-one overweight patients went to term. Had the same proportion of obese patients obtained in all groups, there should have been 110 in the full term group. The only patient in the entire series who suffered from underweight was 1 of the 2 with hepatitis who were aborted. Eight spontaneous aborters had hypothyroidism, as shown by a low basal rate, as compared with 6 who went to full term. Unfortunately a metabolism test was not done routinely. Had a routine basal metabolic determination been done, no doubt there would have been more subclinical hypothyroidism found in both groups.

Grip or infectious upper respiratory disease was noted in 2 aborters and in 21 of those who went to term, which is an even distribution. On the other hand, 2 diabetic patients were in the spontaneous aborter group as compared with only 6 in the full term group.

From time immemorial falls have been given a prominent place among the causes of abortion. Nineteen of the patients who went to term gave a history of having fallen at some time in their pregnancy. Three of those who aborted spontaneously gave a similar history. One did not begin to bleed until twenty-one days after her fall. The second began to bleed five days after falling down the steps and aborted two days later. The third patient, who also had pelvic inflammatory disease, began to have a bloody vaginal discharge a few hours after her fall. She aborted three weeks later. Whether the fall or the pelvic inflammation was the actual cause we have no way of determining.

Of more significance, it would seem, is the history of a previous sterile period. Nine patients with such a history aborted spontaneously and 21 went to term.

5. Quigley, J. K.: Am. J. Obst. & Gynec. **49**: 633, 1945.

Further evidence of defective germ plasm is seen in the number of deformities of the infants. One baby had clubbed feet and 1 polydactylism. Two had cleft palate. One baby had atresia of the small intestine which was confirmed at autopsy. There was 1 iniencephalus and 1 microcephalus. Two babies had spina bifida and 2 had hydrocephalus. An additional one had a combination of spina bifida and hydrocephalus. It is significant that the microcephalic and 2 of the spina bifida infants were born to mothers who threatened to abort.

Among the gynecologic conditions associated with these 1,000 pregnancies there were 23 cases of vaginitis severe enough to warrant treatment. One of these women aborted spontaneously and 22 went to term. Of more significance is pelvic inflammatory disease. There were only 3 such cases. One aborted spontaneously, and one three weeks after a fall. One went to term. Four uterine myomas were noted, and 3 of these patients went to term. The fourth had a spontaneous abortion.

Retroversion of the uterus is probably an important etiologic factor. We do not have enough antepartum examinations or examinations early in pregnancy to determine this factor with any degree of accuracy. Seven hundred and sixty-one patients had postpartum examinations. Of these 684 went to term and 77 aborted spontaneously. Of the 684 patients who were delivered at term 183, or 26.9 per cent, had a retroversion. Of the 77 patients who aborted 34, or 44.1 per cent, had a retroverted uterus.

SUMMARY

Ninety-four spontaneous abortions and 68 threatened abortions occurring in 1,000 consecutive pregnancies were studied. Treatment with bed rest and progesterone was followed by recovery in 43 per cent. However, 3 patients who were treated successfully had deformed babies (1 microcephalus and 2 spina bifidas). Falls and intercurrent infections were of no etiologic consequences in this series. Pelvic inflammatory disease was encountered only 3 times, but 2 of these patients aborted. One of the 4 patients with uterine fibroids aborted. Two of 8 diabetic patients aborted spontaneously. Overweight patients and those with low basal metabolic rates seem to be rather prone to abort. The same is true of patients who give the history of sterility. Forty-four and one-tenth per cent of the patients who aborted had retrodisplacement of the uterus on postpartum examination as compared with 26.9 per cent of those who had term deliveries.

Medical Arts Building, Richmond 19.

Reaction of Host to Virus.—The internal situation in an animal invaded by a virus which it has not previously encountered is probably more complex than is usually thought. Very little is known as to what determines cellular susceptibility to effective invasion by a virus. One can broadly regard viruses as restricted to one or other system of tissues in the body, as being epitheliotropic, pneumotropic, neurotropic, and so on. Actually these limitations are rarely absolute and can nearly always be overstepped by strains of abnormally high virulence in either natural or experimental hosts. Within a given system of tissues there are usually certain types of cell which are more susceptible than others. In the central nervous system, poliomyelitis virus selectively attacks cells of the motor system. Influenza virus in monkeys, and probably in man, attacks the bronchiolar epithelium more severely than any other part of the respiratory lining.—Burnet, Frank MacFarlane: Virus as Organism, Cambridge, Mass., Harvard University Press, 1945.

LEISHMANIASIS

THE CULTIVATION OF LEISHMANIA TROPICA FROM TWO AMERICAN SOLDIERS WHO HAD RETURNED TO THE UNITED STATES FROM THE NEAR EAST

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Cutaneous leishmaniasis, popularly known as oriental sore, oriental boil, Delhi boil, bouton d'orient, Aleppo boil, Bagdad boil, Bagdad sore, salek, espundia, uta and chicler ulcer, is endemic in China, India, the Near East, the countries bordering the Mediterranean Sea and South America, but not a single case of endogenous leishmaniasis has been reported as yet from the United States and Canada. However, up to the present time a total of 28 exogenous cases have been reported in these regions (Dwork,[1] Strong,[2] Wenyon,[3] Wright[4]). The 2 additional cases of cutaneous leishmaniasis contracted by returning American soldiers which are reported in his paper might presumably be the forerunners of a more serious influx as a consequence of returning military personnel and increased traffic from the regions mentioned.

The diagnosis of cutaneous leishmaniasis usually is based on the clinical appearance of the sore and on the demonstration of Leishman-Donovan bodies in the stained preparations made from scrapings of the ulcer. This procedure is not conclusive because occasionally yeastlike organisms or other extraneous substances from the lesion may be confused with Leishman-Donovan bodies, particularly if the smears are not well stained. Wenyon[5] and I believe that undoubtedly it was the presence of yeastlike organisms in Benedek's preparations which resulted in Benedek's[6] erroneous report of an autochthonous case of leishmaniasis in the United States in 1941. Such errors can be avoided if the diagnosis of leishmaniasis always is substantiated by cultural tests, in which the flagellated form of the parasites is unmistakably recognizable. Actually an absolute diagnosis of cutaneous leishmaniasis cannot be made unless it is verified by the demonstration of both the aflagellar and the flagellar stages of the parasites.

Although 28 cases of exogenous cutaneous leishmaniasis have been reported in the United States and Canada since the first report in 1903, the present communication is the first from the United States and Canada in which the diagnosis has been established by the cultural method (Dwork,[1] Hoare,[7] Wright[4]).

METHODS AND MATERIALS

Case Reports.—The first patient was a white soldier who had been stationed in Iran from December 1943 until June 1944 and was admitted to an army general hospital in Texas on Feb. 8, 1945. He states

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Col. H. R. Livesay, Major Milton Pollard, Capt. E. R. Cockerell, Lieut. H. Senekjie of Fort Sam Houston, Texas, and my associate Dr. Joy B. Cross showed interest and cooperation in this work.

1. Dwork, K. G.: Cutaneous Leishmaniasis (Oriental Sore) in the United States and Canada: Survey of Literature and Report of Four Cases, Arch. Dermat. & Syph. **45**: 676 (April) 1942.
2. Strong, R. P.: Stitt's Diagnosis, Prevention and Treatment of Tropical Diseases, Philadelphia, Blakiston Company, 1942.
3. Wenyon, C. M.: Protozoology, New York, William Wood & Company, 1926.
4. Wright, J. H.: Protozoa in a Case of Tropical Ulcer (Delhi Sore), J. M. Research **10**: 472, 1903.
5. Wenyon, C. M.: Comments on Benedek's Report, Trop. Dis. Bull. **37**: 778, 1940.
6. Benedek, T.: American Leishmaniasis: Report of the First Autochthonous Case in the United States, J. Trop. Med. & Hyg. **43**: 147, 1941.
7. Hoare, C. A.: Early Discoveries Regarding the Parasite of Oriental Sore, Tr. Roy. Soc. Trop. Med. & Hyg. **32**: 67, 1938.

that about six months earlier a small red "pimple" had appeared below the right "collar bone" and was soon encircled by several similar papules. At the time the material for the culture was secured, the eruption was composed of soft, discrete and confluent, reddish brown papules, one of which presented a small pinhead-sized ulcer. The entire lesion was surrounded by a nonsuppurative, hard, inflamed, raised, marginal zone.

The second patient, a Negro soldier, was admitted to the same hospital in February 1945. He had been returned on rotation to this country a month earlier, after about three years of service in Iran. Two scaling "lumps" had been noticed on the right leg about five months preceding his admittance. Approximately two months before he was hospitalized, the lesions had ulcerated. At the time the material for the culture was obtained, the lesions measured about 8 cm. in diameter. They were ulcerated and had raised, nonindurated, nonundermined borders and rather soft bases. The floors were covered with granulation tissue and with foul smelling purulent material and crusts.

Culture Medium.—Sterile meat infusion agar (containing 1.5 to 2 per cent agar-agar) was cooled to 45 C. and about 20 per cent of defibrinated rabbit's blood was added, mixed well, poured into test tubes and allowed to solidify in a slanted position. In order to obtain a large amount of water of condensation (about 0.5 cc. per tube) the freshly prepared tubes of medium were first refrigerated for several hours and then warmed at room temperature. After incubation overnight to assure their sterility, the tubes of medium were stored in the ice box until ready for use. This simplified medium has been referred to as N. N. medium, although it is not identical with either the classic formula of N. N., which contains 50 to 66 per cent blood, or the N. N. N. medium, which contains no meat infusion but has about 33 per cent blood (Craig,[8] Nicolle,[9] Novy and MacNeal,[10] Strong [2]).

Cultural Test and Method of Securing the Inoculum.—In order to avoid contamination of the cultures with bacteria and molds, the lesions were painted with tincture of iodine, and after removal of the excess of iodine with alcohol, from 1 to 2 cc. of sterile isotonic solution of sodium chloride was injected into the bordering inflamed zone closely adjacent to the ulcerous center of the lesion. (It is desirable to use a new sterile needle and syringe for each injection and to introduce the solution into different areas of the bordering inflamed margin.) Immediately thereafter a few drops of fluid were obtained by aspiration and each sample of the aspirated fluid was inoculated into separate tubes of the N. N. medium. The inoculated tubes were rubber capped and kept at room temperature (about 25 C.) for about two weeks before they were examined for flagellates.

No positive culture of the flagellates was expected from the circulating blood of these patients. However, about 10 cc. of venous blood was withdrawn and defibrinated. About 0.5 cc. of this blood was inoculated into each of several tubes of N. N. medium; then these tubes were rubber-capped and incubated at room temperature.

Staining the Parasites.—Smears made from cultures showing a positive growth of flagellates were fixed with absolute methyl alcohol and stained by MacNeal's tetrachrome or a combination of the Wright-Giemsa methods. The smears from the scrapings of the ulcer from the first patient were stained at the Eighth Service Command Laboratory with the combination Wright-Giemsa technic.

8. Craig, C. F.: Laboratory Diagnosis of Protozoan Diseases, Philadelphia, Lea & Febiger, 1942.
9. Nicolle, C.: Culture du parasite du bouton d'orient, Compt. rend. Acad. d. sc. **146**: 842, 1908.
10. Novy, F. G., and MacNeal, W. J.: On the Cultivation of Trypanosoma Brucei, J. Infect. Dis. **1**: 1, 1904.

EXPERIMENTAL DATA

Slants of blood agar medium which were inoculated with the aspirated material from both patients were examined microscopically after seventeen days of incubation and were found swarming with flagellates, as may be seen from the table. The flagellates were leptomonad in form and were actively motile; both large and small rosettes were seen frequently. Smears stained with MacNeal's tetrachrome or with the Leishman or Wright-Giemsa stains showed a deeply colored, large, more or less centrally located nucleus and a more deeply colored, anteriorly located blepharoplast. A long flagellum extended from the anterior end of the parasite, and there was no evidence of an undulating membrane.

Much morphologic variation was noted in specimens from two to twenty day old cultures. Long forms, spindle shaped forms, large subspherical shapes and large round forms often were observed, frequently appearing in dividing stages. Small, round, interkinetic forms were also found. The blepharoplast stained a deep bluish purple. The nucleus appeared a deep reddish purple and was not homogeneous in character. The cytoplasm was finally granular but often contained fairly large, strongly basophilic granules. The cytoplasm of some flagellates was vacuolated. The flagellum was usually about one and a half times the body length, which at times was traced in the cytoplasm up to the blepharoplast.

Cultivation of Leishmania Donovani and Leishmania Tropica from Exogenous Cases of Leishmaniasis

	Demonstration of Leishman-Donovan Bodies in Smears			Cultural Tests		
Exogenous Cases of leishmaniasis in the United States	Circulating Blood	Bone Marrow	Ulcer	Circulating Blood	Bone Marrow	Ulcer
Case 1 Kala-azar (visceral leishmaniasis).....	+	+	..	+ After 21 days	+ After 7 days	..
Case 2 Kala-azar (visceral leishmaniasis).....	0	+	..	+	+	..
Case 3 Oriental sore (cutaneous leishmaniasis).....	0	Not performed	+	0	Not performed	+
Case 4 Oriental sore (cutaneous leishmaniasis).....	0	Not performed	+	0	Not performed	+

Cultural tests of venous blood, obtained from both patients, were examined on the fifteenth and forty-fourth days of incubation and all were found negative for flagellates.

The smears which were made from the scrapings from the first patient and stained with combination Wright-Giemsa methods revealed a few parasites suggesting Leishman-Donovan bodies. No smears were made from the lesion of the second patient. However, after obtaining positive culture of Leishmania tropica from the sore, the Eighth Service Command Laboratory had checked the ulcer and found Leishman-Donovan-like bodies in the scrapings from the ulcer.

The strains of the flagellates, which were obtained from both patients on blood agar slants (N. N. medium), were subcultured at varying intervals and are still alive. These flagellates can neither morphologically nor culturally be distinguished from the other strains and the accepted descriptions of Leishmania tropica. Incidentally, the strains of Leishmania tropica which were isolated from these patients were found also to be identical, morphologically and culturally, with the strains of Leishmania donovani which I had recently cultured in California from 2 exogenous cases of visceral leishmaniasis (Munter and Packchanian [11]).[12]

CLINICAL ASPECTS AND EPIDEMIOLOGY

(*a*) *Clinical Findings and Treatment.*—The incubation period is usually long and variable; the earliest lesion is usually a small papule, similar to that made by the bite of an insect. Later it develops into an ulcer, which may reach from 4 to as much as 8 cm. in diameter. A dark crust which exudes sticky fluid forms over the lesion. The raised, rimlike edge of the ulcer is not undermined and may be relatively smooth or ragged. If the crust over the center is removed, bleeding usually occurs freely and exposes a moist, superficial ulcer. The ulcers never occur on the palms, soles of the feet or the hairy scalp but are commonly found on the exposed portions of the body. Lesions may be either single or multiple. The Wassermann test is negative, and the formol-gel and serum water tests used for visceral leishmaniasis are negative. The disease as it is found in the Old World is ordinarily self limited and heals within six to twelve months with or without medical care. The sore leaves a deep, button-like depressed scar. Permanent immunity is apparently established after one infection.

In South America cutaneous leishmaniasis, which follows a similar course but often also attacks the mucous membrane, is more severe and if untreated may last several years (Chandler,[13] Strong,[2] Wright [4]).

Cutaneous leishmaniasis may easily be confused with yaws, leprosy, syphilis (bejel), blastomycosis, facial lupus or cutaneous tuberculosis (Chandler,[13] Strong,[2] Wenyon [5]).

If the ulcer occurs singly and is not very extensive, local treatment with an ointment containing 2 per cent of antimony and potassium tartrate or local injections of 2 to 3 cc. of a 1 per cent solution of berberine sulfate have therapeutic value. The pentavalent antimony compounds also can be injected around the ulcer. In more severe cases, however, particularly when the lesions are multiple, intravenous injections in step-up doses of pentavalent antimony preparations, such as neostibosan, solustibosan, ureastibamine (urea and stibamine) or neostam, are necessary to produce curative results (Chandler,[13] Strong,[2] Wenyon [5]).[14]

(*b*) *Reservoir Hosts and Transmission.*—It is claimed that dogs may serve as a reservoir and that the disease is transmitted interchangeably between men, dogs and men and dogs chiefly by various species of sand flies (Phlebotomus) (Chandler,[13] Strong,[2] Wenyon [5]). It is suspected that some species of lizards may also serve as a reservoir and that mechanical transfer of the disease may take place by means of personal contact or by house flies (Chandler,[13] Strong,[2] Wenyon [5]).

(*c*) *Geographic Distribution of Cutaneous Leishmaniasis.*—The disease is endemic in many tropical and subtropical countries in both the Western and Eastern hemispheres (Chandler,[13] Strong [2]). It is found most commonly in the Mediterranean littoral and adjacent territories, as Asia Minor, Syria and Palestine. In Africa it occurs in Morocco, Tunis, Algeria, the Sahara, Egypt, the Sudan, Abyssinia, the French Congo, the district of Lake Chad and Nigeria. In India, important centers of infection are Delhi, Lahore and Multan.

In Europe the disease is endemic in the Mediterranean Islands of Sicily, Cyprus, Crete and Sardinia and has been recently introduced by returning soldiers or immigrants into southern France, Italy, Spain and Greece.

In the Western Hemisphere leishmaniasis occurs commonly in Brazil, Peru, Guiana and Paraguay. So far, cases have been reported from Mexico and from every country of South and Central America except Chile and Patagonia (Chandler,[13] Strong [2]).[15]

In the areas where oriental sore occurs most frequently, nearly every individual has had cutaneous leishmaniasis and practically every person in such localities (as Bagdad and Haleb) has facial scars from this disease.

Obviously, cutaneous leishmaniasis is endemic and widespread in many parts of the world. Whether or not any considerable number of the United States troops who have been stationed in these regions will contract cutaneous leishmaniasis and manifest symptoms after their return to this country remains to be investigated. Since the incubation period of leishmaniasis is at times very long and since no lesions are visible during this stage, the probability of unrecognized cases entering the United States is strong (Chandler,[13] Strong,[2] Wenyon [5]). The fact that there have been already 2 cases of cutaneous leishmaniasis in returned soldiers and that 499 proved cases of leishmaniasis have been recently diagnosed in the American armed forces in the Middle East (Ball [16]) indicates that such a possibility cannot be ignored.

In the early part of 1939 6 cases of exogenous cutaneous leishmaniasis were called to my attention by Dr. D. A. Berberian [13] of the University of Beirut. These patients, medical students from the United States, had acquired the infection while in the Near East and were under treatment in New York City and Texas. Another unpublished case of exogenous, cutaneous leishmaniasis also was called to my attention during 1941. This was in a student from Delhi, East India, who was attending the Colorado School of Mines. He entered the United States approximately six months before the diagnosis was made (February 1941) by Dr. John Ambler and verified by Dr. E. R. Mugrage [17] of the University of Colorado School of Medicine.

Additional exogenous cases of both cutaneous and visceral leishmaniasis have been reported by other investigators (Dwork,[1] Munter and Packchanian [11]). These reports, together with the present communi-

11. Munter, E. J., and Packchanian, A.: Two Exogenous Cases of Visceral Leishmaniasis (Kala-Azar) in California with Notes on Cultivation of Leishmania Donovani in Vitro, to be published.

12. Leishmania tropica never has been isolated from the peripheral blood of patients suffering with cutaneous leishmaniasis (Oriental sore); however, Leishmania donovani often can be cultured from the peripheral blood in cases of visceral leishmaniasis (kala-azar).

13. Chandler, A. C.: Introduction to Parasitology, New York, John Wiley & Sons, 1940

14. Neostam (stibamine glucoside) can be purchased from Burroughs and Wellcome, New York City Branch, and Neostibosan (ethylstibamine) from the Winthrop Company, New York.

15. In South America, espundia, or mucocutaneous leishmaniasis, is attributed to a different strain of Leishmania tropica which is known as Leishmania braziliensis. Several authorities, however, regard the two terms as synonymous (Chandler,[13] Strong,[2] Wenyon [5]).

16. Ball, D., and Ryan, R. C.: Cutaneous Leishmaniasis, Bull. U. S. Army M. Dept., 1944, no. 79, p. 65.

17. Mugrage, E. R., and Ambler, J.: An Exogenous Case of Cutaneous Leishmaniasis in Colorado, personal communication to the author, 1941.

cation, indicate that the incidence of this disease is sporadic from coast to coast.

The fact that we have occasional exogenous cases of leishmaniasis which have been diagnosed by specialists in the United States suggests that similar unrecognized cases may occur from time to time and that it is increasingly important that clinicians and health officers be on the alert for exogenous leishmaniasis.

COMMENT

For an absolute diagnosis of cutaneous leishmaniasis it is essential (*a*) to demonstrate the aflagellar forms, Leishman-Donovan bodies, in smears that are made from the scrapings from the lesion and (*b*) to culture the flagellated forms of the parasite on suitable medium (infective material for the inoculation of culture medium may be secured from biopsy, from scrapings from the margins of the ulcer or from aspirated material from the inflamed zone surrounding the ulcer). A diagnosis based only on the demonstration of Leishman-Donovan bodies is insufficient, because occasionally yeastlike micro-organisms or other extraneous materials are found in smears and are confused with Leishman-Donovan bodies. This is particularly true if the smears are not well stained. During the fall of 1941, when I was at the National Institute of Health, I found no proof when I examined the original preparations on which Benedek [6] based his diagnosis of autochthonous leishmaniasis. At about the same time Wenyon [5] independently reached the same conclusion.

On the other hand, when suitable culture medium is inoculated with material containing aflagellar forms of L. tropica and incubated at room temperature for about ten days, a luxuriant growth of readily recognizable flagellates is obtained. The flagellates are leptomonad in form, are actively motile and colonize on the slanted portion of the blood agar.

In general, an absolute diagnosis of visceral leishmaniasis is dependent on the same factors as is cutaneous leishmaniasis. In the latter, smears and cultures are secured from the ulcer and the surrounding inflamed areas. In the former, smears and cultures are obtained from the bone marrow, the liver, the spleen or the circulating blood.

The cultural method is an important aid for the diagnosis of leishmaniasis and should be utilized always, even though it may take from one to three weeks before positive laboratory findings can be available. Positive cultures never have been obtained from the peripheral blood of patients with the cutaneous leishmaniasis (oriental sore), but cultures of flagellates may be secured easily from peripheral blood of patients suffering with visceral leishmaniasis (kala-azar) (Craig,[8] Munter and Packchanian [11]).

During the present study, positive cultures of flagellates were observed seventeen days after N. N. medium was inoculated with infective material; however, it is possible to find growth on this medium as early as ten days. If no growth is found by the end of thirty days the culture may be considered negative. When it is desired to maintain strains of Leishmania tropica in the laboratory, subcultures should be made at intervals of two or three weeks. In my experience two months old cultures of Leishmania tropica which were grown on N. N. medium produced subcultures rarely, and four months old cultures gave entirely negative results; however, biweekly or monthly transplants gave 100 per cent positive subcultures (Packchanian [18]).

18. Packchanian, A.: On the Viability of Various Species of Trypanosoma and Leishmania Cultures, J. Parasitol. **29**: 275, 1943.

SUMMARY

Positive cultures of Leishmania tropica were obtained from ulcers of one white and one colored American soldier who had recently returned from the Near East and had been hospitalized in Texas.

The cultivation of L. tropica and L. donovani in vitro is essential before an absolute diagnosis of leishmaniasis is made.

Ordinary blood agar slants, containing 15 to 30 per cent of defibrinated rabbit blood and an ample amount of water of condensation, produced excellent growth of the flagellates. The flagellates were subcultured at intervals of two to three weeks. They grew luxuriantly and colonized on the blood agar slants (simplified N. N. medium).

The report of cases of exogenous leishmaniasis in the American soldiers in the United States within the last year is an indication both of the expected increase in the incidence of these diseases and of the necessity that physicians and public health officials should use vigilance in the recognition of leishmaniasis and should increase their precautions against the establishment of this disease in the United States.

TRANSVERSE MYELOPATHY FOLLOWING RECOVERY FROM PNEUMOCOCCIC MENINGITIS

TREATED WITH PENICILLIN INTRATHECALLY

REPORT OF CASE, WITH A NOTE ON CURRENT METHODS OF THERAPY

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NEW YORK

Widespread use of penicillin has aroused interest in the management of acute bacterial meningitis. Perhaps the most fatal type has been pneumococcic meningitis, but recent reports have offered hope that at long last we possess a potent weapon against this disease. The case herein reported illustrates the occurrence of an unusual complication, transverse myelopathy, in the course of recovery from acute bacterial meningitis. This sequel is of particular current interest because of the recent report by Sweet and his co-workers [1] of severe though reversible spinal cord or nerve root damage following recovery from pneumococcic meningitis treated with penicillin intrathecally.

REPORT OF CASE

A woman aged 66, admitted to the hospital in a state of restless stupor, had awakened that morning at 8, according to her physician, complaining of pain in and behind her left ear. When he saw her one hour later he had to irrigate the external canal in order to obtain a view of the tympanic membrane, which appeared only slightly reddened. Four hours later the patient became nauseated and vomited. She became rapidly drowsier and soon lapsed into a stupor from which she could not be aroused. There was a progressive rise in temperature, which had reached 103 F. by evening.

On admission, the night of Oct. 15, 1944, the patient was thrashing about in bed, unable to cooperate in the examination. Her temperature was 103.4 F., pulse rate 84, respiratory rate 30. The blood pressure was 126/80. A stiff neck and positive Kernig's sign were present. There were a few medium rales over the right lower lobe. With the aid of restraints a lumbar

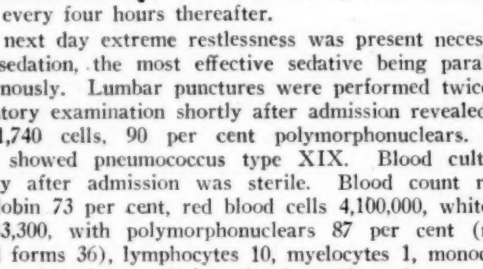
From the Mount Sinai Hospital.

1. Sweet, L. K.; Dumoff-Stanley, E.; Dowling, H. F., and Lepper, M. H.: The Treatment of Pneumococcic Meningitis with Penicillin, J. A. M. A. **127**: 263-267 (Feb. 3) 1945.

puncture was readily performed and cloudy fluid obtained. Direct smear showed many polymorphonuclears and innumerable gram-positive, slightly lanceolate diplococci. A second spinal tap was performed and 10,000 units of penicillin in 10 cc. of sterile isotonic solution of sodium chloride was introduced into the subarachnoid space. In addition intramuscular penicillin was ordered, 10,000 units every three hours. Not long afterward continuous intravenous instillation was started with the addition of sodium sulfadiazine, 6 Gm. at first and 1 Gm. every four hours thereafter.

The next day extreme restlessness was present necessitating much sedation, the most effective sedative being paraldehyde intravenously. Lumbar punctures were performed twice daily. Laboratory examination shortly after admission revealed spinal fluid 1,740 cells, 90 per cent polymorphonuclears. Direct typing showed pneumococcus type XIX. Blood culture on the day after admission was sterile. Blood count revealed hemoglobin 73 per cent, red blood cells 4,100,000, white blood cells 33,300, with polymorphonuclears 87 per cent (nonsegmented forms 36), lymphocytes 10, myelocytes 1, monocytes 2. Pronounced toxic granulation of polymorphonuclears was present. Urine examination was negative.

The consulting neurologist found no focal signs and recommended combined penicillin and sulfonamide therapy. The ear, nose and throat consultant described the left drum membrane as dusky with landmarks present, and the light reflex present



Clinical course.

but interrupted. There were no canal wall changes, no clinical signs of mastoiditis and no indication for surgical intervention.

In the two days following the patient's condition steadily worsened. Stupor gave way to coma, which deepened hourly. All reflexes disappeared. There was no longer any reaction to painful stimuli. The respiratory rate increased to 50 per minute. Throughout the fourth day Cheyne-Stokes breathing alternated with a stertorous tachypnea. The temperature varied between 101 and 103.8 F. The spinal fluid cell count reached 8,850, but on smear only two pair of intracellular diplococci could be seen. Grossly the spinal fluid was very turbid and distinctly blood tinged, and it flowed freely. The concentration of blood sulfadiazine was 22.8 mg. per hundred cubic centimeters. Because of the serious clinical condition of the patient the daily intrathecal penicillin dosage was raised to 40,000 units and intramuscular penicillin to 20,000 units every three hours.

Definite clinical improvement was noted on the fifth and sixth days of the disease. The coma lightened and slight signs of restlessness appeared. On the evening of the latter day the patient's face began to take on its normal expression, ocular movements were observed and the following morning she asked for food. The spinal fluid was sterile and showed a drop in cell count but contained less than 10 mg. of glucose per hundred cubic centimeters. Residual neurologic findings noted at this time were ptosis of the right upper lid and unequal fixed pupils. Reflexes in the lower extremities were still somewhat depressed but there were no pathologic reflexes. The temperature fell to 100 F. Two days later there was another rise to 102.2 F. and the deep reflexes were found hyperactive, with slight right ankle clonus. Equivocal Babinski reflexes were noted. The patient complained of pains in both legs. For the following five days the patient's temperature remained normal. On October 28 x-rays of the mastoids were taken and found to show but slight haziness on the left. X-rays of the paranasal sinuses showed moderate clouding of the ethmoids but were otherwise negative. In the absence of all clinical symptoms and signs no further ear, nose and throat investigation or treatment was thought necessary.

In view of the favorable course, the problem of when to stop treatment was paramount during the second week. Intraspinal penicillin was decreased to 20,000 units daily, intramuscular penicillin to 15,000 units every three hours. Sulfadiazine was likewise continued. Treatment was persisted in because of the continued low spinal fluid sugar and despite the absence of organisms. Not until the fourteenth day did this reach and remain above 40 per hundred cubic centimeters.

On October 31, the sixteenth day after onset, there was a temperature rise to 101.8 F. and the patient complained of weakness in the left leg. The next day complete flaccid paralysis of both lower extremities was present. The deep reflexes in both lower legs were gone and bilateral Babinski was present. Loss of all sensation from the tenth thoracic segment down was observed. Bladder function, which had returned five days previously, again lapsed, the patient being in retention. The lumbar puncture at this time revealed slightly turbid, yellowish fluid containing 600 cells, without any evidence of block by manometric study. The diagnosis of transverse myelopathy was made and all therapy stopped.

The neurosurgical consultant did not think the spinal cord lesion remediable by surgery and he opposed exploration. X-rays of the dorsal spine were negative. Manometric studies repeated at intervals showed persistent absence of block. The spinal fluid count fell to 50, then to 6 cells.

During the following four months the patient's flaccid paraplegia has given place to a spastic paraplegia in flexion. Only a slight degree of motor power is present in the lower extremities, the patient being absolutely bedridden. There has been some return in sensation, particularly to pain. Bladder retention has given way to incontinence. Urinary tract infection is under control with repeated courses of sulfadiazine in small dosage. The prognosis as to further return of function appears very poor indeed.

COMMENT

Transverse myelopathy, whether due to true myelitis or to myelomalacia on a toxic or vascular basis, is distinctly uncommon in the course of acute bacterial meningitis. Thus it is barely mentioned in discussions of the sequelae of meningococcic meningitis.[2] Occasional instances of paraplegia marring recovery from meningococcic meningitis were observed in the presulfonamide era.[3] Intraspinal therapy with serum or dye was usual at that time, so that the complication could be ascribed either to the disease or to the therapy employed.

Pneumococcic meningitis has until recently been so uniformly fatal that little attention needed to be paid to its possible sequelae. However, vascular involvement by the intense inflammatory process is a recognized part of the pathology and might explain certain of the complications of this disease, including transverse myelopathy. An analogous instance has been reported in the course of Streptococcus hemolyticus meningitis.[4] In that case paraplegia occurred although no intrathecal treatment was administered. Autopsy revealed a severe spinal meningitis causing compression of blood

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3. Neal, Josephine B.: Personal communication to the author. Gerber, I. E.: Personal communication to the author.

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vessels with resulting thrombosis of the anterior spinal artery. However, in the present case the active meningitis had apparently subsided before the paraplegia supervened. Nonetheless it is possible that, even when the acute inflammatory process is over, residual vascular damage may cause a complication of this type. The myelopathy encountered in this case may thus be one of the late, natural sequelae of severe pneumococcic meningitis, which are only now becoming manifest as we establish partial control over the disease by means of chemotherapy.

The recently published experience of Sweet and his co-workers prompts further discussion as to the possible relation of this form of spinal cord damage to the intraspinal therapy with sodium penicillin. The cause of the unusual parenchymatous damage which they observed could not be definitely assigned, but the intraspinal penicillin was suspected to the degree that a warning was sounded against too vigorous treatment of this kind. In 2 of their 7 cases in which recovery occurred a neurogenic bladder with overflow incontinence was observed more than two weeks after the onset of the disease. In 1 case paraplegia occurred from which almost full recovery occurred, though only after an interval of three months. These 2 patients, both adults, received intensive intrathecal treatment for a week or more, the daily dose being 80,000 units in 1 instance and 40,000 units in the other. In an earlier report, Waring and Smith [5] employed combined penicillin and sulfonamide therapy in 12 cases and observed the occurrence of optic atrophy, with total blindness as a permanent sequela in 1 case. In this patient, a 2 month old infant, treatment was started on the second day with an initial dose of 20,000 units intraspinally, which produced rapid sterilization of the meninges. In their discussion they state that "this occurrence may bear no relationship to the intrathecal dose of penicillin but it should give us pause before injecting unnecessarily large doses of penicillin into the spinal canal."

The Waring and Smith series includes 10 other patients who recovered without incident and who received no more than 10,000 units of intraspinal penicillin twice daily. For younger patients the dose at each injection did not exceed 5,000 units. In another small series reported by Harford and his associates [6] there were 8 uncomplicated recoveries among 9 cases. Similarly low dosage levels of intrathecal penicillin were employed. The observations in these two groups of cases suggest that 10,000 units once a day is often adequate to sterilize the meninges. If necessary this dose may be given twice daily. Emphasis should be laid on the daily spinal fluid smear and culture for evaluating the results of therapy and as a guide to further dosage. Clinical observation alone may be faulty in that improvement may not be noticeable even when the spinal fluid has become sterile. Under such circumstances it is doubtful whether the employment of larger doses of intraspinal penicillin serves any useful purpose, and it may invite the possibility of severe, even irreversible central nervous system damage. As early termination of intraspinal treatment as possible is also desirable. In some instances of pneumococcic meningitis an active feeding focus may well prevent permanent recovery no matter how long treatment is continued. Relapse of meningitis should suggest the need for surgical eradication of such a focus as well as the need for continuance of chemotherapy.[7]

Intraspinal treatment of meningitis, so long an accepted technic, had begun to fall into disrepute before oral sulfonamides rendered it obsolete. Hoyne [8] successfully treated 40 cases of meningococcic meningitis with intravenous antitoxin alone. Meningeal reactions had been observed to the intraspinal administration of serum or air, and Wechsler [9] relegated lumbar puncture in meningitis to the status of a diagnostic technic. Further illustration of the occasional serious complication of usually harmless intraspinal treatment is afforded by the occurrence of severe, even fatal, toxic myelopathy following spinal anesthesia.[10] In the present case the concentration of penicillin solution for intraspinal use was not more than 1,000 units per cubic centimeter. Yet the fundamental observations of Rammelkamp and Keefer had shown that even with this dilution pleocytosis of considerable degree is a usual response.[11] It has been suggested that employment of the alkaline sodium salt of penicillin may be particularly responsible for this degree of meningeal irritation.[12] One may recall the disastrous reactions, including myelopathy, which followed the intrathecal administration of sodium sulfapyridine for meningitis in the early days of sulfonamide therapy.[13]

There exists some difference of opinion at present as to whether penicillin given intramuscularly or intravenously reaches the spinal fluid in effective concentration for the treatment of meningitis [14] although it is an accepted fact that it does not reach the normal spinal fluid in significant amounts. That this dispute may be academic is strongly suggested by the experience of Price and Hodges.[15] They report the successful treatment of bacterial meningitis, including 2 cases of the pneumococcic variety, with penicillin given only parathecally. It is probable that there has been too much emphasis on the need for administering penicillin intrathecally just as there was in an earlier day on the use of intraspinal serum in meningococcic meningitis. The current controversy concerning spinal fluid levels of penicillin recalls the doubts expressed as to the probable efficacy of sulfadiazine in meningitis. The relatively low spinal fluid concentration of this drug has been found to bear no relationship to its therapeutic value. Indeed, Price and Hodges question the entire rationale of intraspinal treatment: "It is uncertain, however, whether or not the presence of penicillin in the spinal fluid is actually necessary to control infection. If the infection involves the meningeal membranes primarily it would seem that penicillin given intravenously reaches the involved tissues through the blood supply, as it does elsewhere in the body. . . ."

The most effective and the safest method for the employment of penicillin in the treatment of pneumo-

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coccic meningitis is thus still an open question. Conservatively it is probably still desirable to use it intrathecally for the first few days of the disease. But this should be in limited amount, not more than 10,000 units in 10 cc. of isotonic solution of sodium chloride at each injection. On the other hand, greater emphasis should be placed on the use of larger doses of intramuscular penicillin, which should be continued after intraspinal treatment is over. Present experience suggests that the addition of the sulfonamides may increase the effectiveness of therapy.

SUMMARY

A woman aged 66 recovered from a fulminating pneumococcus type XIX meningitis. Therapy consisted of penicillin administered both intrathecally and intramuscularly. Sulfadiazine also was given. Paraplegia, bladder paralysis and sensory loss below the tenth thoracic segment, indicative of transverse myelopathy, supervened several days after apparent subsidence of the meningitis.

This serious and apparently permanent complication may be regarded as a natural although rare sequela of the disease. Or it may be due to intensive intraspinal penicillin therapy. In view of the latter possibility it is urged that greater emphasis be placed on the employment of large doses of penicillin by the intramuscular route. Intrathecal administration might well be limited to the first few days of therapy and the dose per injection to 10,000 units.

111 East Eighty-Eighth Street.

Clinical Notes, Suggestions and New Instruments

BILATERAL OPTIC ATROPHY AS A SEQUELA TO THROMBOCYTOPENIC PURPURA

PAUL V. CARELLI, M.D., AND JOSEPH P. CANGELOSI, M.D.,
CHICAGO

Bilateral optic atrophy is rarely observed as a sequela in patients suffering from thrombocytopenic purpura.

A recent review of the literature by Watkins, Wagener and Brown[1] tends to show the rather infrequent observance of "choked disk" in purpura hemorrhagica, but optic nerve atrophy was not noted in these cases.

Michail[2] reported 1 case of bilateral optic atrophy as following purpura hemorrhagica, in which irradiation of the spleen caused a disappearance of the petechiae but the eye condition did not improve. He also cites a case reported by Narog and another by Schall in which hemorrhages into the retina were present.

Several cases of intracranial hemorrhage following purpura hemorrhagica have been reported at necropsy and reviewed by Alpers and Duane.[3] These cases involve cerebral, ventricular and meningeal hemorrhages which vary in size from small pinhead hemorrhages to lentil-size lesions.

Choking of the disk may reach quite a high degree, as in the case of Herzfeld and Rohrschneider,[4] in which there was choking of 4 and 5 diopters with no localizing signs. This choking later receded in the course of two months. The same was true in the case reported by Alpers and Duane, in which the choking disappeared completely.

In 1916 Kaznelson[5] recommended splenectomy for the cure of thrombocytopenic purpura. In addition Whipple[6] reported a series of cases in which a high mortality (87 per cent) resulted because the spleen was removed during the acute stage of the disease. In his report he strongly advised against splenectomy during the stage of active bleeding.

Greenwald[7] has recommended the use of snake venom as a means to control active bleeding in thrombocytopenic purpura.

REPORT OF CASE

A white boy aged 6 years, of Italian parentage, was first seen Nov. 26, 1943 because of uncontrollable epistaxis. The child was perfectly well until one week prior to the onset, when he developed an upper respiratory infection. He was not seen at that time and was permitted to continue at school. There was no history of trauma and no exposure to toxic agents or familial history of ready bruising.

The child was admitted to St. Elizabeth Hospital and examination disclosed the following essential findings:

The patient was definitely anemic in appearance, and hemorrhagic areas were present over the eyes, forehead, lips and lower extremities. Laboratory data revealed hemoglobin 80 to 85 per cent, leukocytes 16,800 and erythrocytes 4,300,000. The platelet count was 42,520, while the bleeding time was thirty minutes and the clotting time three and one-half minutes. Urine examination disclosed numerous white blood cells and a trace of albumin. A diagnosis of purpura hemorrhagica following upper respiratory infection was made.

Treatment consisted of rest in bed, vitamins C and K by mouth, 0.3 cc. of snake venom hypodermically daily and 125 cc. of compatible whole blood daily for two weeks.

About one week after admission the child became irrational at times and complained of headaches and soreness of the neck. At this time there developed blood in the stools; the urine was blood tinged and the platelet count dropped to 3,710.

On December 10, which was the second week of hospitalization, the patient suddenly called for his mother, who was at his bedside, stating that he could not see her. Ophthalmologic examination one week later revealed, in the right eye, doubtful light perception; ecchymotic spots were present on the lids, and the eye appeared slightly prominent. There was limitation of the ocular movements externally, superiorly and inferiorly. The pupil was dilated 3 mm. and fixed to light reaction. The fundus was normal. In the left eye there was doubtful light perception, with injection of the palpebral and bulbar conjunctiva and a staining infiltrate of the cornea at about 5 on the clock dial. The pupil was similar to the right one. The fundus showed a slight blurring of the disk margins, with large hemorrhages at the superior portion of the disk and smaller hemorrhages in the inferior portion.

Diagnosis was made of left corneal infiltrate and left retinal hemorrhages.

It was assumed that the child had suffered some intracranial damage, probably subarachnoid hemorrhage or hemorrhage into the optic nerve sheath and probable hemorrhage into the orbit.

Under therapy the corneal infiltrate healed and sixteen days after the onset of ocular symptoms both disks were pale, showing signs of beginning optic atrophy. The platelet count had risen to 19,640.

On Jan. 12, 1944, which was about six weeks after admission to the hospital, the child was operated on. An abdominal exploration revealed a very large liver extending past the midline to the left and a much enlarged spleen, about four times normal size. A splenectomy was performed. On the second postoperative day the erythrocyte count was 4,660,000 and the platelet count had risen to 327,660. The child continued to improve and two months after admission was discharged from the hospital. At the present writing the eye findings reveal doubtful light perception and bilateral optic atrophy.

From the Ophthalmological and Surgical Departments of St. Elizabeth Hospital.

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COMMENT

This case report is of interest (1) because of the rare occurrence of bilateral optic atrophy as a sequela to thrombocytopenic purpura, (2) a splenectomy performed during the quiesent stage of the disease produced an almost immediate return to normal of the blood picture and (3) the eye findings are still unchanged twenty months after the onset of the disease.

3626 West Chicago Avenue—1605 West Chicago Avenue.

Council on Physical Medicine

The Council on Physical Medicine has authorized publication of the following reports. HOWARD A. CARTER, *Secretary.*

HEIDBRINK OXYGEN TENT ACCEPTABLE

Manufacturer: The Ohio Chemical & Manufacturing Company, Heidbrink Division, Minneapolis.

The Heidbrink Oxygen Tent Model 75B is designed for administering oxygen therapy. The unit is well constructed. The mechanical parts operate as they are designed to do. Diffusion through fabric constitutes a safety factor, as far as accumulation of carbon dioxide is concerned. The unit submitted was tested in a laboratory acceptable to the Council.

Cooling Efficiency.—The air chamber was filled with cracked ice and the tent flaps were tucked under the mattress according to instructions and circulation turned on at "high" with valve for cooling at "cold.". Room temperature was 70 F., room humidity 40 per cent.

Heidbrink Oxygen Tent Model 75-B.

In 5 minutes the tent temperature was 64 F.; in 15 minutes the tent temperature was 60 F.; in 50 minutes the tent temperature was 55 F., relative humidity 60.

It may be presumed from this experiment that sufficient decrease in temperature of the atmosphere of the tent would result on a hot day in keeping it at or below the point of comfort when it contains a patient. Whether the tendency toward an increase of relative humidity when added to the humidity produced by the patient might become a factor of discomfort was not determined. Since "dryness" was a complaint of a subject in the tent without ice, it seems probable that ice is as important from the standpoint of humidity as it is for cooling.

From further experiments, one may conclude that:

1. Facilities for the control of oxygen and humidity are adequate.

2. With no soda lime in place, a flow of 4 liters or more, and circulator set at 3 or more, carbon dioxide will not accumulate above the manufacturer's limit of 1.5 per cent carbon dioxide.

3. A flow of less than 4 liters per minute of oxygen is inadequate for efficient oxygen therapy.

4. Although circulation of the atmosphere alone eliminates considerable carbon dioxide (diffusion through leaks and fabric) it also eliminates oxygen, thus requiring a higher flow of oxygen.

5. Humidification from ice may be as important from the standpoint of comfort as is its cooling effect.

6. Elimination of carbon dioxide and patient comfort can apparently be controlled by rapid circulation and fast flow of oxygen. However, extremely fast flows of oxygen are then necessary to maintain effective concentrations.

7. Finally, as compared with other tents designed for the therapeutic administration of oxygen, this apparatus is compact and well built.

The Council on Physical Medicine voted to include the Heidbrink Oxygen Tent Model 75B in its list of accepted devices.

ALTEX MATTRESS AND PILLOW ENCASINGS ACCEPTABLE

Manufacturer: Expert Bedding Company, 2454 North Halsted Street, Chicago.

An "Altex" mattress and pillow encasings are used by allergic patients sensitive to bedding dusts or to the materials ordinarily used in the manufacture of mattresses and pillows.

"Altex" mattress and pillow encasings are made of bleached white cotton cloth, backed and bonded with synthetic rubber. The mattress encasing has an interior flap which is held in place by the weight of the mattress pressing down on the flap and holding it tight in place. Closure is effected with a button fastener, and the exterior is lowered to cover the button fastener.

The pillow interior flap sheath is used as a block for any heavy dirt or dust and is held in place the same way as the mattress encasing.

All sewing is first done in the raw seams, which are then bias bound, a double stitch being made. All seaming and binding is done on the inside of the encasing.

Perspiration and soap boiling tests were made in the standard perspiration solution used by rubber chemists, and soap tests were made by boiling the samples in 2 per cent soap solution for a period of twenty hours; the results were shown to be negative.

Small bags of the material were sewn and filled with water. Tests showed that in the beginning there was a small drip of water; after two hours there was considerable swelling of the threads and seams, and thereafter the loss of water was by evaporation alone.

In a laboratory acceptable to the Council an "Altex" pillow encasing was examined. It was found to be well made and adequate for the purpose. It stands dilute acid, dilute alkali, various organic solvents and washing very well.

"Altex" encasings are guaranteed for one year from the date of shipment against deterioration, rips and such other factors as may be the result of faulty material and manufacture.

"Altex" encasings are sold on recommendation of the physician alone. None of them are sold through the avenues of retail stores.

The Council on Physical Medicine voted to accept the "Altex" pillow and mattress encasings for inclusion in its list of accepted devices.

Council on Foods and Nutrition

ACCEPTED FOODS

The following additional foods have been accepted as conforming to the Rules of the Council on Foods and Nutrition of the American Medical Association for admission to Accepted Foods.

GEORGE K. ANDERSON, M.D., *Secretary.*

PREPARATIONS USED IN THE FEEDING OF INFANTS (*See* Accepted Foods, 1939, p. 156)

Heinz Company, Pittsburgh.

HEINZ STRAINED ORANGE PUDDING contains rice, 50% cream, skim milk powder, cornstarch, salt, sugar, whole eggs, vanilla concentrate tenfold, fresh orange juice, fresh lemon juice and water to prepare.

Analysis (submitted by manufacturer).—Total solids 24.92%, total sugar as sucrose 13.92%, acidity as citric 0.12%, protein (N × 6.25) 1.73%, fat (by acid hydrolysis) 1.38%, crude fiber 0.05%, ash 0.70%, salt 0.38%, total carbohydrates other than crude fiber by difference 20.94%, calcium 36.0 mg. per hundred grams, phosphorus 39.0 mg. per hundred grams, iron 0.5 mg. per hundred grams, copper 0.1 mg. per hundred grams.

Calories.—1.03 per gram, 29 per ounce.

Vitamins.—	I. U./100 Gm.	Mg./100 Gm.
Carotene	55	.....
Thiamine	..	0.025
Riboflavin	..	0.071
Ascorbic acid	..	3.88

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SATURDAY, OCTOBER 20, 1945

CONTROL OF AIR BORNE INFECTION

Statistics for the years 1933 to 1943 have shown a steadily mounting rate of absenteeism in industry due to respiratory diseases. The rate for 1942 was higher than that of any previous year of the ten year period 1933 to 1942, and in 1943 there was a further striking increase in the frequency of respiratory diseases. Stuart Mudd [1] suggests that the causes of this increasing rate of industrial disability due to respiratory diseases are to be looked for in overcrowding of workers in ill ventilated common carriers, trains, street cars and busses, rather than in the conditions of work in industrial establishments alone. He calculates that for the year 1943 there were lost to industry in the United States through respiratory diseases 128,000,000 man days and 93,000,000 woman days, or over 220,000,000 person days, or more than one third of the total number of person days lost to American industry by disability. This figure represents a waste of labor of about 740,000 persons working for a year.

The Wellses [2] demonstrated that transmission of infection through the air may be due to droplet infection proper or to the dried residue of infected droplets or droplet nuclei depending on air for the buoyancy that keeps them suspended for longer times and carries them longer distances. Information as to bacterial population can now be obtained in a relatively short time and under control conditions through the employment of recently developed sampling devices. Du Buy and Hollaender [3] suggest the following devices for measuring the three physical forms and manner of settling of the air borne organisms: the open plate, any one of the atomizing methods and one of the impinging or sieve devices. The enclosed or living spaces present the principal source for the dissemination of respiratory diseases. The means for the reduction of the bacterial content of living spaces at present include ultraviolet irradiation, dust suppressive measures and the use of germicidal vapors such as hypochlorous acid, propylene and triethylene glycol. The English investigators Thomas and van den Ende [4] demonstrated that oiling floors and bedclothes was capable of reducing air borne bacteria in a hospital ward by 90 per cent. Robertson and his co-workers [5] established that oil treatment of bedding can be adequately achieved by means of water-oil emulsions, which were employed as a final rinse in the laundering process. Tests by the National Bureau of Standards showed that the percentages of oil involved in this process did not constitute a fire hazard. The use of oil on bedclothes brought about a striking reduction in the aerial dispersion of bacteria which ordinarily occurs during bed making. Oiling the floors reduced by 70 per cent the number of air borne bacteria which occurred in the control barracks during the same period of maximum activity. Oiled bedding plus oiled floors effected a further reduction to about 90 per cent of the bacterial counts in the control barracks. Harris and Stokes [6] studied the use of propylene glycol vapors in bactericidal concentration in wards of a children's convalescent home. The incidence of upper respiratory infection in these wards was much lower than in control wards. The fact that the greater majority of the upper respiratory infections in control wards were common colds provides, in their opinion, additional evidence of the virucidal effect of propylene glycol vapor and may give indirect evidence also of air borne transmission of the common cold.

The bacteriologic studies carried out by Deryl Hart and his co-workers [7] established that air is an important source of contamination in every operative wound. They also demonstrated that sterilization of the air in the operating room can be accomplished by ultraviolet irradiation. Robertson and her associates [8] obtained a striking reduction in cross infection in infant wards by ultraviolet irradiation. Wheeler and his associates [9] describe a carefully controlled clinical study of the effect of the ultraviolet light control of air borne infections in a naval training center. Ultraviolet irradiation of the floors and upper air of barracks housing naval recruits was accompanied by a 25 per cent reduction of respira-

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tory illness in those barracks equipped with high intensity sources as compared with illness in the adjacent control barracks. This fact was most noticeable in the early winter months, when illness rates were at a general high level throughout the camp. At this time the reduction of incidence in barracks irradiated with high intensity sources as compared to the controls was approximately 35 per cent.

The practical utility of any control measure predicated on the reduction of the bacterial content of the air will depend on whether or not a large or a small proportion of respiratory disease is air borne. An increased body of evidence indicates that the amount of air borne infection is greater than was formerly believed. The methods thus far developed for the reduction of the bacterial content of living spaces constitute an important contribution to the total problem of control of respiratory diseases. Their practical application presents a number of problems the solution of which will call for cooperation of such specialists as physicians, engineers, architects, air conditioning engineers and manufacturers of special apparatus.

CATGUT TUBING FLUIDS

In 1943 a series of studies were reported on the irritant properties of surgical tubing fluids as a factor in tissue irritations.[1] These demonstrated that marketed specimens of nonboilable surgical gut contained up to 14 per cent by volume of high boiling aromatic carbons in the tubing fluids. These hydrocarbons were related to a coal tar distillate known as "xylene fraction," or solvent naphtha. The investigations also demonstrated that tubing fluids are potent tissue irritants. In the final paper Jenkins and Dunham showed that a sufficient amount of irritant water insoluble hydrocarbon was present in some tubing fluid to account for much of the tissue irritation that follows the use of catgut which had previously been attributed to properties of the catgut itself. The Chicago investigators therefore recommended the elimination of tubing fluid irritants from surgical gut.

Now Bower [2] reports a series of studies with rabbits and dogs in which he employed catgut sutures tubed in ethyl alcohol containing a percentage of "hi-flash solvents" from 0.1 per cent up to 15 per cent. Tissues surrounding the sutures were examined microscopically. Bower flatly contradicts the claim of Jenkins and his colleagues that the degree of irritant action is proportional to the amount of xylene-like solvent in the alcoholic tubing fluid. Bower also offers evidence which he labels "conclusive" of the rapid absorbability and lack of irritating action of xylene when brought in contact with normal animal tissues.

The conflicting claims of Jenkins and his co-workers and of Bower require early settlement. The conclusion of Bower that the use of catgut tubing fluids containing "hi-flash solvent" does not produce excessive tissue irritation is surprising in view of the well known irritating properties of xylenes for tissue. If xylene can be proved not to have irritating properties for living tissue, it will be contrary to all past experience. If, however, Jenkins and his colleagues are right, there would seem to be little excuse for continuing to place surgical gut in a solution of potential harm to surgical patients.

1. Dunham, Charles L., and Jenkins, Hilger P.: Surgical Gut (Catgut) Tubing Fluid as a Tissue Irritant, Ann. Surg. **118:** 269 (Aug.) 1943. Sidwell, Albert E., Jr.: Hydrocarbon Content of Nonboilable Surgical Gut Tubing Fluids, ibid. **118:** 285 (Aug.) 1943. Jenkins, Hilger P., and Dunham, Charles L.: Irritant Properties of Tubing Fluids as a Factor in the Tissue Reactions Observed with Surgical Gut (Catgut), ibid. **118:** 288 (Aug.) 1943.

2. Bower, John O.: The Fallacy of Surgical Gut (Catgut) Tubing Fluids as a Tissue Irritant, Surg., Gynec. & Obst. **81:**225 (Sept.) 1945.

PHYSIOLOGIC AND FINANCIAL ECONOMY IN NUTRITION

Satisfactory nutrition of a person or of a group of people depends ultimately on the money available for the purchase of food. Intimately involved in the solution of this essentially financial problem is the discovery of the factors that determine maximum economy in the physiologic utilization of essential nutrients. Generally acceptable standards must be established by which both human nutritional status and diets can be appraised. Now a standard for estimating the nutritional status of persons with respect to the need and the utilization of the vitamins by the body has been considered thoroughly and critically in a recent review by Dann and Darby,[1] who have suggested that five "zones" of nutrition be recognized: (1) nutritional saturation, (2) nutritional unsaturation without functional impairment, (3) potential nutritional deficiency, (4) latent nutritional deficiency disease and (5) clinically manifest nutritional deficiency disease. Nutritional saturation is intended to mean that the body is incapable of increasing its content of a given nutrient even with prolonged ingestion of large amounts. In the case of unsaturated but functionally unimpaired nutrition the body is considered to contain less of a given nutrient than at saturation but still sufficient quantity to prevent the development of functional abnormality detectable by known biochemical or physiologic tests. Potential nutritional deficiency disease is considered to exist in the absence of clinical evidence of deficiency if clinically manifest disease can be precipitated by physiologic stress on the organism or if suitable physiologic or biologic tests yield evidence of decreased reserve functional capacity. Latent nutritional deficiency disease is defined as the mildest clinically detectable form of deficiency disease as indicated by vague, indefinite and nonspecific symptoms which do not permit definite diagnosis but which may be alleviated by the administration of the proper nutrients. Clinically manifest nutritional deficiency disease in its

1. Dann, F. P., and Darby, W. J.: Physiol. Rev. **25:** 326, 1945.

mildest form requires laboratory and therapeutic tests for diagnosis; in its severest form the classic clinical syndrome may be diagnosed without recourse to laboratory tests or therapeutic trial.

Determination of the nutritional status of an individual in accordance with these standards is based on data obtained by clinical examination, by biochemical and physiologic tests and by measurement or estimation of the total dietary intake. Dann and Darby caution that clinical examinations usually detect only the well developed deficiency disease. In the diagnosis of mild forms of nutritional disease, clinical examinations must be supplemented by other procedures. The interpretation of most of these procedures, chiefly biochemical tests, is uncertain because these tests have not been correlated adequately in human subjects. They further caution that the dietary standards employed in estimating dietary adequacy are not founded on sufficient data obtained from human subjects. With regard to the use of dietary standards in determining nutritional status, these writers call special attention to a fundamental guiding principle: "Since the dietary standard possesses the properties of a mean, its usefulness as a yardstick for assessment of the mean intake of a nutrient by a population is considerably greater than its usefulness when applied to a valuation of the intake of an individual." The importance of the application of this principle in all nutritional surveys is obvious.

Although the zonal concept of the nutritional status of an individual or, indeed, of a population, as developed by Dann and Darby, may present certain difficulties, particularly with respect to the actual existence of zone 3 and the distinction between zone 4 and zone 5, an appraisal of nutritional status based on this concept is basically sound, and the standards proposed deserve careful consideration.

Current Comment

WHY TRADE NAMES FOR ANTIBIOTICS?

Pharmaceutic manufacturers of the United States made remarkable contributions to the war effort. Outstanding was the production and distribution of penicillin, which saved more lives than can probably ever be estimated. Now some manufacturers, perhaps overly alert to the drive for prestige and profits in the postwar period, seem ready to abandon cooperation and rational therapeutics. At least four firms are actively marketing or planning to market antibiotic preparations such as penicillin and tyrothricin under special trade names. These agents are among the most active and useful compounds that have ever been developed. Some of their usefulness will be lost by confusing their identity. The phenomenal success of sulfonamide therapy in the United States has been partly due to willingness to make these compounds available under nonproprietary names. When a physician prescribes sulfanilamide, sulfathiazole, sulfadiazine or any other sulfonamide he knows exactly what he is prescribing. Such was not and is not now the case in other countries, where the sulfonamides have been offered under a multiplicity of names. What can manufacturers really gain by abandoning the prestige and publicity that have been given to penicillin and attempting in lieu thereof to establish new names which mean nothing to the medical profession? If their preparations are misused and if antibiotic therapy does not make the progress for which there is promise, these manufacturers must share the blame. The medical profession may well resent these attempts to muddy the clear waters of scientific advancement to conceal a desire for unwarranted individual profits.

BENZYL PENICILLIN

Research on penicillin has been pointed toward finding products of maximum clinical efficiency. Tainter and his associates[1] of the Winthrop Chemical Company claim that the benzyl ester of penicillin is sufficiently superior to ordinary sodium penicillin to merit clinical trial. Benzyl penicillin is prepared by treating free penicillin in an inert organic solvent with an excess of phenyl diazomethane. Any unreacted penicillin is extracted with sodium bicarbonate solution. Evaporation of the solvent yields a resinous product which can be heated well above 100 C. without deterioration. Routine in vitro tests against broth cultures of Staphylococcus aureus show that this compound is relatively inert, having only one-thirtieth the bacteriostatic titer of sodium penicillin. This inert product, however, is readily activated by the addition of rat kidney extract, rat serum or guinea pig serum, presumably as a result of enzyme action. One half of the bound penicillin is apparently set free as a result of hydrolytic cleavage.[2] Assuming that a similar hydrolytic regeneration takes place in the animal body, the predictable therapeutic potency of benzyl penicillin would be much greater than that suggested by its low in vitro titer. Benzyl penicillin dissolved in a vegetable oil and injected subcutaneously, or given by mouth, was titrated therapeutically on mice inoculated intraperitoneally with multilethal doses of streptococci or pneumococci. Control titers were made with ordinary penicillin. The data thus far obtained show that, when injected subcutaneously, benzyl penicillin has at least three times the therapeutic potency of sodium penicillin. When taken by mouth the therapeutic potency is approximately five times that of sodium penicillin. Given orally, it has substantially the same therapeutic effect as an equivalent weight of sodium penicillin injected subcutaneously. Benzyl penicillin is now being tested on a large scale in clinical cases, and the results will be awaited with much clinical interest.[3]

1. Cavallito, C. J.; Kirchner, F. K.; Miller, L. C.; Bailey, J. H.; Klimek, J. W.; Warner, W. F.; Suter, C. M., and Tainter, M. L.: Science **102**: 150 (Aug. 10) 1945.
2. Hickey, R. J.: Science **101**: 462 (May 4) 1945.
3. Gamble, T. O.; Miller, L. C., and Tainter, M. L.: Am. J. Obst. & Gynec., to be published.

MEDICINE AND THE WAR

ARMY

SPECIAL COMMITTEE TO ETO REPORTS ON COMBAT FATIGUE

A recent announcement by the War Department indicates that approximately 90 per cent of the men overcome by combat exhaustion in the European Theater of Operations prior to the collapse of Germany returned to duty as a result of prompt and skilled handling. This announcement was based on a report made by a commission of civilian psychiatrists appointed by the Office of Scientific Research and Development at the suggestion of the Surgeon General of the Army.

In summarizing the observations of the committee, it was stated that army psychiatrists had displayed great courage and ingenuity and had made some notable accomplishments. High quality of personnel, better methods and technics and the fact that psychiatrists are getting to their patients more rapidly are some of the reasons why combat fatigue was treated more successfully in his war than shell shock was in the last war.

The report stresses the fact that the presence of combat exhaustion is no indication of lack of courage. It points conclusively to the fact that soldiers do reach the point at which their systems can undergo no more.

The commission was composed of Dr. John C. Whitehorn, chief psychiatrist, Johns Hopkins University School of Medicine; Dr. John Romano, professor of psychiatry, University of Cincinnati College of Medicine; Dr. Lawrence S. Kubie, associate in neurology, Columbia University College of Physicians and Surgeons, New York; Dr. Karl Menninger, director, Menninger Clinic, Topeka, Kan., and Dr. Leo H. Bartemeir, professor of psychiatry, Wayne University College of Medicine, Detroit.

MEDICAL CORPSMAN AWARDED MEDAL OF HONOR

For his conspicuous gallantry in administering aid to the fallen men of his company at Okinawa and at the same time killing six of the enemy though he was seriously wounded, Robert Eugene Bush, hospital apprentice first class, was recently awarded the Medal of Honor. The citation accompanying the award explained that it was given to Bush "for conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty while serving as medical corpsman with a rifle company, 2d Battalion, 5th Marines, 1st Marine Division, in action against enemy Japanese forces on Okinawa Jima, Ryuku Islands, May 2, 1945. Fearlessly braving the fury of artillery, mortar and machine gun fire from strongly entrenched hostile positions, Bush constantly and unhesitatingly moved from one casualty to another to attend the wounded falling under the enemy's murderous barrages. As the attack passed over a ridge top, Bush was advancing to administer blood plasma to a marine officer lying wounded on the skyline when the Japanese launched a savage counterattack. In this perilously exposed position he resolutely maintained the flow of life giving plasma. With the bottle held high in one hand, Bush drew his pistol with the other and fired into the enemy's ranks until his ammunition was expended. Quickly seizing a discarded carbine, he trained his fire on the Japanese charging point blank over the hill, accounting for six of the enemy despite his own serious wounds and the loss of one eye suffered during his desperate battle in defense of the helpless man. With the hostile force finally routed, he calmly disregarded his own critical condition to complete his mission, valiantly refusing medical treatment for himself until his officer had been evacuated and collapsing only after attempting to walk to the battle aid station. His daring initiative, great personal valor and heroic spirit of self sacrifice in service for others reflect great credit on Bush and enhance the finest traditions of the United States Naval Service."

ARMY AWARDS AND COMMENDATIONS

Colonel Charles Langdon Parsons

In recognition of his work in maxillofacial surgery, Lieut. Col. Charles Langdon Parsons, formerly of Boston, was recently awarded the Legion of Merit. As chief of surgical services of a station hospital, Colonel Parsons was credited with initiating, conducting and concluding the work of the maxillofacial clinic of his hospital. Describing his exceptionally meritorious efforts to relieve facial suffering and disfiguration due to battle wounds, the official citation stated that, owing to the high patient census of the surgical service consisting mainly of battle casualties from the Anzio beachhead and the main Italian front, Colonel Parsons' clinic performed most of this highly specialized type of operation for the entire Mediterranean theater. During the period April 1, 1944 to April 1, 1945 the facilities of the unit were taxed to the utmost by the delicate care that each patient required and by the fact that the influx of seriously wounded men almost doubled the normal capacity of the hospital. By working tirelessly for long hours, Colonel Parsons, in addition to his normal duties and in conjunction with his superior surgical ability, compiled an exhaustive history of the experiences of the maxillofacial clinic. Dr. Parsons graduated from Harvard Medical School, Boston, in 1927 and entered the service May 15, 1942.

Captain Cecil J. Hawes

The Bronze Star was recently awarded to Capt. Cecil J. Hawes, formerly of Conway, S. C. According to the citation "While a prisoner of war at Stalag IIA, New Brandenburg, Germany, from January to April 1945, he voluntarily remained at this prison camp to give medical aid to over 800 American and British enlisted men rather than accompany other officers to an officers' camp. Although it was a constant struggle with the German authorities to secure medical equipment, medicines and assistance, he was able to improve greatly the lot of the American and British sick through his untiring efforts, foresight and medical skill. He labored day and night to save the seriously ill and to comfort those in pain. He performed operations under the most difficult conditions and with poor equipment. His cheerful and encouraging attitude was always a morale factor of greatest importance. His exceptionally meritorious achievement was in line with the finest traditions of the medical service and a great credit to himself and the Army." Dr. Hawes graduated from Vanderbilt University School of Medicine, Nashville, Tenn., in 1942 and entered the service July 3, 1943.

Captain John J. Shurtz

Capt. John J. Shurtz, formerly of Eldora, Iowa, was recently awarded the Bronze Star. The citation stated that "he was on assigned duty as surgeon on a United States Army transport when it was torpedoed on Nov. 11, 1943. He remained on board after the order to abandon ship had been given, continued to care for the wounded and supervised their transfer to the rescue ship. Finding insufficient medical and surgical supplies, he obtained a small boat, returned to his transport and, with complete disregard for his own safety and the risks involved, boarded the sinking vessel and went below to obtain the additional supplies. Returning to the rescue ship, he administered medical aid and performed countless surgical operations throughout the night and during the following day. The courage, fortitude and persistence shown by him in the care of patients under adverse and hazardous conditions on an overloaded ship reflect great credit on himself and on the military service." Dr. Shurtz graduated from the State University of Iowa College of Medicine in 1941 and entered the service Sept. 12, 1942.

Major Vance J. Elliott

Major Vance J. Elliott, formerly of Knoxville, Iowa, was recently awarded the Bronze Star "for meritorious services from March 1944 to May 1945 as group surgeon of a heavy bombardment group. Major Elliott has, through diligent and untiring effort, been successful in administering the station hospital so that, from the first, it has been considered a model of its kind, and he has consistently maintained one of the lowest noneffective rates of flying personnel and has been a contributing factor in the combat efficiency of his group. Major Elliott designed a collapsible evacuation airplane litter that enjoyed immediate success and has been instrumental in saving the lives of many men. Major Elliott has shown outstanding ability as a leader and has considerably contributed to the morale of his group and to the medical operations of the Army Air Forces." Dr. Elliott graduated from the State University of Iowa College of Medicine, Iowa City, in 1939 and entered the service Jan. 29, 1941.

Lieutenant Colonel R. Robert Cohen

Lieut. Col. Reuben Robert Cohen, formerly of Havre De Grace, Md., was recently awarded the Legion of Merit for "services from May 1943 to August 1944 at the Army Service Forces Training Center (Ordnance), Aberdeen Proving Ground, Maryland. During that period by his untiring efforts, initiative and superior intelligence he developed a unique and original training program in the field of psychiatry to speed up the mental and emotional transition of enlisted men from civilians into soldiers. The program evolved and put into operation in all the ordnance training centers was done entirely outside normal duty functions and has resulted in better morale, a reduction in sick call and hospitalization, a saving of training time and the creation of a greater number of well balanced soldiers. His ingenuity, tremendous drive and understanding of human nature have been vital factors in the production of excellent ordnance soldiers, and his work is contributing materially to the success of the war effort." Dr. Cohen graduated from the University of Pittsburgh School of Medicine in 1932 and entered the service April 10, 1941.

DENTAL CORPS OFFICER CITED

Capt. Claude P. Daniel, Dental Corps, formerly of Bogalusa, La., was recently awarded the Bronze Star. The citation read "While a prisoner of war in Japanese Prison Camp No. 1, Cabanatuan, Philippine Islands, from October 1944 to January 1945, he performed services as chief of dental service and practicing dentist in a general hospital. With improvised makeshift equipment and depleted medical supplies, he labored against great odds and on a starvation diet. At the demand of the Japanese administration he gave dental care to the enemy garrison. His excellent work and the manner in which he performed it were important factors in maintaining endurable associations with the Japanese captors. His continued cheerfulness in the face of arduous and hazardous duties and his unusual accomplishments despite limited facilities were an inspiration to his fellow prisoners of war."

MISCELLANEOUS

INFORMATION WANTED ABOUT DISCHARGED OFFICERS

The Directory Department and the Bureau of Information of the American Medical Association are very anxious to obtain the names and present addresses of all physicians who have been released from the armed forces and also the date on which their military service terminated.

These names will be listed in THE JOURNAL and in the Directory Report Service. Many inquiries are being received daily from physicians who are trying to locate either former colleagues or medical officers whom they met while in military service.

If you know of any physicians who have recently been released from the armed forces, please urge them to send the following information to the Directory Department, American Medical Association, Chicago 10:

1. Full name.
2. Date on which military service terminated.
3. Present address (residence and office).
4. Indicate whether in practice, retired or not in practice.
5. Former permanent address (if different from item 3).

TRANSFER OF PROCUREMENT AND ASSIGNMENT SERVICE

A recent release from the central office of the Procurement and Assignment Service states, in part, that "the functions of the Procurement and Assignment Service of the War Manpower Commission and the functions of the chairman of the War Manpower Commission with respect thereto are hereby transferred to the Federal Security Administrator. There shall be transferred to the Federal Security Agency, for use in connection with such functions, all of the personnel of the Procurement and Assignment Service and so much of the other personnel of the War Manpower Commission and so much of the records, property and funds of the War Manpower Commission as the director of the Bureau of the Budget shall determine to relate primarily to the Procurement and Assignment Service." This transfer was to be effective October 20, at which time Federal Security Agency transportation request blanks were to be used instead of those issued by the War Manpower Commission.

WARTIME GRADUATE MEDICAL MEETINGS

The following subjects and speakers for Wartime Graduate Medical Meetings have just been announced:

California

U. S. Naval Hospital, San Diego: Dysenteries: The Differentiation Between the Protozoal and Bacillary Dysenteries, Dr. John F. Kessel, November 1.

U. S. Naval Air Training Station, San Diego: Recent Developments in Diabetes, Dr. James Sherrill, November 2; Problems in Urology, Lieutenant Commander Rusche.

A. A. F. Regional and Convalescent Hospital, Santa Ana: Tuberculosis Problems, Comdr. W. L. Rogers and Comdr. A. W. Hobby, November 6; The Use of Products of Fibrogen and Thrombin in Otolaryngology, Capt. Harry P. Schenck, November 20.

Camp Cook Station Hospital, Lompoc: Some Dynamics of Military Neuropsychiatry, Major Alex Blumstein, November 7; Cardiac Emergencies, Lieut. Comdr. Sylvester McGinn, November 21.

Hoff General Hospital, Santa Barbara: Some Dynamics of Military Neuropsychiatry, Major Alex Blumstein, November 7; Cardiac Emergencies, Lieut. Comdr. Sylvester McGinn, November 21.

U. S. Naval Hospital, Corona: Neuropsychiatry, Lieutenant Commander Nichols, November 8; Tumor Pathology, Dr. Edward Butt, November 22.

U. S. Naval Hospital, Santa Margarita Ranch, Oceanside: The Cancer Problem in the Service Personnel, Lieut. J. S. Binkley, November 8; Modern Concepts of Lepra, Dr. Maximilian Obermayer, November 22.

Torney General Hospital, Palm Springs: Psychosomatic Medicine, Major Milton Miller, November 6; Headache, Capt. Oscar Sugar, November 6; Peptic Ulcer, Dr. William Poeck, November 20.

A. S. F. Regional Hospital, Camp Haan: Cardiac Emergencies, Lieut. Comdr. Sylvester McGinn, November 6.

Letterman General Hospital, San Francisco: Uremia Following Urologic Surgery, Dr. Donald Smith, November 3.

Station Hospital, Camp Roberts: The Fundamentals of Endocrine Diagnosis, Dr. Roberto F. Escamilla, November 10.

PHYSICIANS SEPARATED FROM SERVICE

ARMY MEDICAL CORPS OFFICERS RECOMMENDED FOR/OR RELIEVED FROM ACTIVE DUTY

Name Rank Address

Arizona

Fillmore, Angus J., Major, 34 N. MacDonald, Mesa.
Hilker, Marcus D., Capt., St. Joseph's Hospital, Phoenix.
Jones, William A., Capt., Whiteriver.
McCune, Robert Jr., 1st Lt., Box 334, Ft. Defiance.
Merrill, Marriner W., Capt., 41 W. Vernon Ave., Phoenix.

Colorado

Goldman, Harold I., Major, 1755 Ivanhoe St., Denver.
Kallay, Stephen L., Capt., 1092 Garrison, Lakewood.
Lamberson, Harry H., Capt., 344 1st Natl. Bank, Colo. Springs.
Lorber, Milton B., Capt., 1612 Tremont Place., Denver.
Lyday, Joseph H., Major, 415 Dexter St., Denver.
Lyons, Mason R., 1st Lt., 1533 Konthia St., Denver.
Mechler, Emmett A., Major, 1960 Glencoe St., Denver.
Min, Henry M., Capt., Fairplay.
Nicks, Frank I., Major, P. O. Box 541, Manitou Springs.
Reynolds, Francis H., Major, 144 Race St., Denver.
Zarit, John I., Major, 829 Fillmore St., Denver.

Delaware

Gross, Benjamin A., Major, 1503 W. 13th St., Wilmington.
Munson, Charles L., Major, 1201 Shallcross Ave., Wilmington.
Reardon, William T., Capt., 207 W. 29th St., Wilmington.
Sortman, Harold P., Capt., 2327 Jessup St., Wilmington.
Walker, George L., Capt., 506 W. 6th St., Wilmington.
Warren, R. O. Y., Lt. Col., 1403 Delaware Ave., Wilmington.

Idaho

Flint, Weldon C., 1st Lt., Cottonwood.
Forney, Richard A., Major, 1001 N. 16th St., Boise.
Gudmundsen, Max D., Capt., 717 N. 19th St., Boise.
Haury, Paul G., Capt., 308 Prospect Ave., Lewiston.
McRoberts, Donald D., 1st Lt., 712 Ninth Ave., Lewiston.
Mellor, Wendell J., Capt., 492 L St., Idaho Falls.
Pierce, Wallace H., Major, Cottonwood.
Steele, John G., Major, 2515 Ellis St., Boise.

Kentucky

Albritton, James E., Capt., Hopkinsville.
Asman, Henry B., Major, 1908 Rutherford Ave., Louisville.
Blount, Rankin C., Major, 302 Security Trust Bldg., Lexington.
Bryant, Charles G., Capt., 923 Eastern Parkway, Louisville.
Dent, Paul L., Major, 551 Garden Drive, Louisville.
Griswold, R. A., Col., Box 437, Blankenbaker Lane, Louisville.
Hagan, James E., Capt., Hazard.
Haizlip, James O., Capt., 143 N. Ft. Thomas Ave., Ft. Thomas.
Hunter, S. B., Jr., Major, % Good Samaritan Hosp., Lexington.
Imes, Pat R., Major, 2713 Lexington Rd., Louisville.
Mack, John K., Lt. Col., 522 Wataga Dr., Louisville.
Marquardt, Carl A., Capt., 310 Main St., Augusta.
Smith, Keith Perkins, Capt., 109 Center St., Corbin.
Smith, Tom J., Major, 45 Lyndale Rd., Route 5, Covington.
Townes, Charles D., Lt. Col., Route 1, Buechel.
Troutman, Woodford B., Lt. Col., 2101 Lowell Ave., Louisville.
Walsh, John T., Capt., LeGrange.
Welch, Ernest A., Capt., 320 Hart Rd., Lexington.
Wilt, Frederick W., Major, 321 N. Broadway, Georgetown.
Zimmerman, Leo W., Major, 1902 Lowell Ave., Louisville.

Maryland

Garlick, William L., Major, 816 N. Eutaw St., Baltimore.
Long, Perrin H., Col., 307 Thornhill Rd., Baltimore.
Silverton, George, Capt., 827 Light St., Baltimore.
Winkenwerder, Walter L., Lt. Col., 1014 St. Paul St., Baltimore.

Nebraska

Mack, Marvin A., Lt. Col., 1212 Ivy St., Crete.
Norall, Victor D., Major, Lexington.
Steinberg, Maurice M., Lt. Col., 111 S. 34th St., Omaha.

Oklahoma

Bolton, Vernon L., Col., 800 N. E. 13th St., Oklahoma City.
Davis, Thomas H., Lt. Col., 404 Med. Arts Bldg., Tulsa.
Parker, Warren E., Capt., Davis.
Sanger, Fenton A., Col., 332 Key Bldg., Oklahoma City.
Taylor, Lloyd W., Lt. Col., 514 E. Brown St., Hugo.

Pennsylvania

Barnard, J. H., Major, 162 Center Ave., Emsworth, Bellevue.
Berger, Emanuel, Capt., 4911 2d Ave., Pittsburgh.
Boylan, Joseph T., Major, 13 S. Church St., Carbondale.
Cochran, H. A. J., Capt., 402 Chester Ave., N.W., Pittsburgh.
Collins, Clyde A., Capt., 909 Columbia St., Scranton.
Dines, George L., Major, R. F. D. 1, Corapolis.
D'Zmura, Constantine E., Major, Dixonville.
Falker, John M., Lt. Col., 222 S. Hickory St., Mt. Carmel.
Ferkany, J. E., Major, 509 Russellwood Ave., McKees Rocks.
Gilardi, R. J., Capt., 2975 Belrose Ave., Dormont, Pittsburgh.
Green, Arthur H. Jr., Major, 115 N. Main Ave., Scranton.
Haber, Richard E., Lt. Col., 1710 Wightman St., Pittsburgh.
Hanes, W. J., Major, Hill. & Old Eagle School Rds., Strafford.
Krausz, Martin R., Lt. Col., 5215 Sylvester St., Philadelphia.
Larkin, Francis L., Major, Uniontown.
O'Connor, Arthur J., Major, 18 Conewonge Ave., Warren.
Odley, Ralph L., Capt., 161 5th St., Renovo.
Patterson, G. W., Lt. Col., 622 Baldridge Ave., N. Braddock.
Place, Elmer R., Major, Skippack.
Pohl, Charles M., Major, 210 W. High St., Manheim.
Popielarski, Joseph T., Capt., 440 Bush St., Bridgeport.
Postlethwait, Raymond W., Capt., Palmerton Hosp., Palmerton.
Ralston, Emerald M., Capt., 226 W. 8th St., Eric.
Savage, Lester W., Capt., 140 Hansberry St., Germantown.
Shepler, Joseph R., Major, West Newton.
Smith, Walter M., Capt., S. Main St., Richlandtown.
Sneddon, John Jr., Capt., 111 Frederick St., Hanover.
Spahr, Richard R., Col., 19 S. Market St., Mechanicsburg.
Timney, Thomas E., Capt., 813 Elk St., Franklin.
Trees, Donald P., Capt., 213 S. 41st St., Philadelphia.
Tropea, Frank Jr., Major, 5323 N. Carlisle St., Philadelphia.
Vander Veer, Joseph B., Col., 302 S. 19th St., Philadelphia.
Ward, George H., 1st Lt., 220 Locust St., Wilson Clairton.
Washko, Peter J., 1st Lt., 99 Short St., Edwardsville.
Wirts, Carl A., Major, 812 Cedar Ave., Pittsburgh.
Wong, James S. F., Capt., 1316 N. 6th St., Philadelphia.
Woodhouse, S. L. Jr., Major, 4647 Oakland St., Philadelphia.

South Carolina

Brown, Alton G., Major, Med. Coll. of S. C., Charleston.
Jamison, Andrew M. Jr., Major, 257 E. Main St., Spartansburg.
Oliver, Benjamin M. Jr., Capt., S. C. Tub. Sanat., State Park.
Sherrill, Sion F., Major, 514 State St., Belle Fourche.
Thackston, L. P., Lt. Col., 154 N. Broughton St., Orangeburg.
Thomas, John P. Jr., Capt., 334 Vernon St., Gaffney.

Texas

Adams, Clinton E., Lt. Col., 3401 S. 11th St., Abilene.
Adam, George F., Capt., 3225 Blinz St., Houston.
Allen, George S., Lt. Col., Shepherd Allen Hosp., Burnet.
Allen, Platt L., Major, Weatherford.
Barkley, Howard T., Lt. Col., Box 904 A., Route 5, Houston.
Barta, Chester K., Major, St. Paul's Hospital, Dallas.
Burnett, Mathew D. Jr., Major, 411 Sycamore St., Brenham.
Carrithers, Clem M., Capt., Bruni, Webb County.
Carter, Christopher B., Lt. Col., Dallas Country Club, Dallas.
Cochrann, Joel L., Lt. Col., 314 Club Dr., San Antonio.
Gentry, Thomas C., Lt. Col., DeLeon.
Gonzalez, Juan C. Jr., Major, Benavides.
Moore, Masters H., Major, 1400 Wall St., Tyler.
Nicosia, Ralph V., Major, 407 Westmoreland St., Houston.
Oliver, Thomas M., Major, 900 Austin Ave., Waco.
Patillo, Albert D. Jr., Major, Box 300, Wichita Falls.
Pecora, Tony L., Major, 620 Godhue Bldg., Beaumont.
Perez, Alfred, 1st Lt., 130 Goodwin Ave., San Antonio.
Peyton, John B., Major, 1421 Medical Arts Bldg., Dallas.
Prather, Frank A., Capt., Runge.
Rhea, Robert L. Jr., Major, 414 Navarro St., San Antonio.
Sebastian, Festus J., Major, 4133 Hawthorne St., Dallas.
Shaddock, Carroll B. Jr., Major, 1507 "C," Beaumont.
Shelton, Elvin L. Jr., Major, John Sealy Hosp., Galveston.
Smith, John M., Capt., Port Neches (Gen. Del.).
Steele, Virgil S., Capt., 155 Harrison Ave., San Antonio.
Sutton, Robert S., Major, 710 W. Kirk Pl., San Antonio.
Tandy, Hugh B., Major, Box 538, Ozona.
Whitsitt, James J., Major, 4824 La. Branch, Houston.
Zink, Linus A., Major, Pecos.

ORGANIZATION SECTION

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion. The Report of the Secretary, additional sections of the Report of the Board of Trustees and reports of some councils, bureaus and departments will appear in subsequent issues of The Journal.—Ed.

(Continued from page 465)

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following report of the Secretary is respectfully submitted:

Membership

At the close of the year 1944 the names of 124,595 members were enrolled. Deaths of members accounted for the removal of 1,952 names from the official list. The enrolment as of Dec. 31, 1943 was 123,586. The gain in membership in 1944 was 1,009.

In practically all instances component societies and constituent associations have retained on their membership rolls the names of members assigned to active duty with the military forces, and those names have also been retained on the official membership list of the American Medical Association. As of Oct. 1, 1945 the number of members enrolled was 126,024 as compared with 125,637 on the same date in 1944.

Fellowship

The Fellowship roster carried 68,637 names on Dec. 31, 1944 as compared with 70,269 on the same date in 1943. Deaths of Fellows in 1944 numbered 950. The names of 165 Fellows were removed from the roster because of ineligibility, and 412 were dropped because of lapses in the payment of dues. The decrease in the number of Fellows was most largely due to the fact that thousands of Fellows were serving with the military forces in all parts of the world. The Secretary respectfully suggests that the House of Delegates authorize the restoration of the names of all Fellows assigned to active duty on their own request.

The usual table, entitled "Organization of Constituent State and Territorial Medical Associations," is included in this report.

Activities of Component Societies and Constituent Associations

Conditions created by the great war have imposed new and heavy responsibilities and duties on the medical profession of our nation. Thousands of physicians have voluntarily accepted assignment to active duty with the military forces, and the record clearly shows that they have acquitted themselves with great credit. They have served in all parts of the earth and have won the acclaim of commanding officers and men in the ranks in all war theaters.

The depletion in the ranks of physicians available for service to the civilian population has imposed great burdens on those left at home, and they too have served with great credit.

The long continued absence of many of their members and the great demands made on the time and effort of those who were not called for war service have created new problems for our societies. Even so, most of them have carried on earnestly and effectively, though reports indicate that some county societies have found it difficult to continue their activities.

In spite of unusual and difficult conditions growing out of the war, many component societies and most, if not all, of the constituent associations have actually performed in splendid fashion in that they have dealt effectively with many of the problems of the times and in some instances have actually extended their activities in the interest of medicine and in the public interest.

Organization of Constituent State and Territorial Medical Associations, April 1, 1944

	Number of Counties in State	Number of Component Societies in State	No. of Counties in State Not Organized		No. of Physicians in State 17th Ed. A. M. Directory	No. of Members of State Associations		Number of Fellows in State
			1944	1945		1944	1945	1945
Alabama	67	67	..	..	2,123	1,560	1,539	634
Arizona	14	13	1	1	615	390	407	234
Arkansas	75	58	9	9	1,866	1,098	1,110	415
California	58	49	10	9	12,305	7,550	7,890	5,075
Colorado	63	27	1	1	1,886	1,175	1,186	674
Connecticut	8	8	..	..	2,720	2,011	2,039	1,031
Delaware	3	3	..	..	360	243	243	123
District of Columbia	..	..	..	..	4,540	947	985	779
Florida	67	34	16	16	2,391	1,429	1,448	986
Georgia	159	92	37	37	2,814	2,014	2,066	800
Idaho	44	9	..	..	446	319	312	170
Illinois	102	92	6	6	12,548	8,623	8,644	3,876
Indiana	92	83	1	1	4,165	3,397	3,401	1,760
Iowa	99	97	..	..	3,102	2,407	2,386	1,081
Kansas	105	72	16	16	2,042	1,587	1,482	816
Kentucky	120	112	4	4	2,717	1,949	1,900	724
Louisiana	64	42	15	15	2,601	1,567	1,535	810
Maine	16	15	..	..	1,011	757	755	341
Maryland	23	23	..	..	3,085	1,635	1,746	1,013
Massachusetts	14	18	..	..	8,085	5,528	5,534	2,693
Michigan	83	55	..	..	6,569	4,567	4,520	2,159
Minnesota	87	34	1	1	3,614	2,976	3,056	1,296
Mississippi	82	21	3	3	1,525	923	948	398
Missouri	114	78	8	7	5,183	3,252	3,308	1,715
Montana	56	17	22	22	556	453	443	202
Nebraska	93	50	16	16	1,637	1,110	1,105	602
Nevada	17	5	12	12	174	114	133	73
New Hampshire	10	10	..	..	687	540	527	260
New Jersey	21	21	..	..	6,008	4,294	4,318	2,333
New Mexico	31	14	17	17	447	268	313	170
New York	62	61	1	1	27,928	18,908	19,192	10,228
North Carolina	100	67	24	24	2,871	1,942	2,000	974
North Dakota	53	13	11	11	520	399	399	191
Ohio	88	87	1	1	9,406	6,752	6,868	3,567
Oklahoma	77	63	6	6	2,284	1,493	1,497	702
Oregon	36	28	1	1	1,493	982	1,000	476
Pennsylvania	67	60	5	5	13,503	9,951	9,761	5,386
Rhode Island	5	6	1	1	958	755	783	349
South Carolina	46	37	4	4	1,427	911	915	479
South Dakota	69	12	1	1	493	341	316	186
Tennessee	95	53	24	24	2,961	1,815	1,755	807
Texas	254	126	..	..	6,952	4,607	4,729	2,247
Utah	29	9	4	4	585	505	514	273
Vermont	14	10	3	3	551	378	377	189
Virginia	100	52	8	8	2,920	1,868	1,915	1,213
Washington	39	24	13	13	2,234	1,644	1,656	972
West Virginia	55	29	5	5	1,834	1,352	1,358	508
Wisconsin	71	52	..	..	3,551	2,627	2,693	1,359
Wyoming	24	11	11	11	263	190	188	99
Alaska	..	..	..	..	79	37	38	35
Hawaii	5	4	1	1	395	345	348	166
Isthmian Canal Zone	..	..	..	..	181	250	138	31
Philippine Islands	56	28	28	28	4,209	1,247	1,247	42
Puerto Rico	7	7	..	..	526	470	477	66
Foreign	..	..	..	..	17	.....	.....	91
Total	3,139	2,058	347	345	185,903	124,452	125,302	63,559
Commissioned medical officers								4,506
								68,065

PROPOSED AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

Proposed amendments to the Constitution and By-Laws submitted to the House of Delegates at its last meeting by Dr. C. B. Conklin, delegate of the Medical Society of the District of Columbia, and Dr. A. W. Adson, delegate of the Minnesota State Medical Association, were referred to the Board of Trustees and will no doubt be reported on by that body.

MEMORIALS AND RESOLUTIONS

The Secretary has received copies of several resolutions adopted by official bodies of constituent associations, but it is his understanding that they are to be submitted by delegates representing the constituent associations concerned.

APPRECIATION

Again the Secretary humbly but gratefully extends an expression of his appreciation of the kindly and helpful consideration and aid received from all of the officers and members of official bodies of the Association and many of those concerned with the affairs of its component and constituent societies. In this connection he would offer high commendation for the devoted service of the directing head of every Council, Bureau and Department and the supporting personnel in all offices.

Respectfully submitted.

OLIN WEST, Secretary.

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

During the past year two meetings of the Judicial Council were held in Chicago, one on Dec. 1, 1944 and the other on June 19, 1945. These, in addition to the meetings which were held in conjunction with the meeting of the House of Delegates in June, were sufficient to take care of the routine business and other matters referred to the Council.

The items on the agenda for consideration at the Council meetings were:

1. Applications for Fellowship in the American Medical Association which were questioned because of information contained in the biographic files of the American Medical Association.

2. The proposed amendments to the Constitution and By-Laws which were referred to the Council by the Board of Trustees. These amendments were introduced in the House of Delegates at its meeting in June 1944 and referred to the Board of Trustees, which, in turn, referred them to the Judicial Council. They concerned membership in the American Medical Association and consequently were considered by the Council. Reports were completed on two of the proposed amendments, the third being delayed temporarily because of the inability of the Council to secure a copy of the constitution and by-laws of the constituent society concerned.

3. There were many questions in regard to unethical advertising, inquiries on the ethical relationship of doctors with hospitals and government agencies operating medical services and questions from physicians as to their right of appeal from decisions of constituent associations. Other questions on the same subjects were answered either by correspondence with headquarters or the Chairman of the Council or by personal interview with one of its members.

PROFESSIONAL RELATIONS

The members of the profession, however, are more disturbed by some doubts as to the ethical principles governing relationship between doctors and members of the various cults. Many requests were for information regarding this relationship. It seems strange that such a condition still exists, for in the reports of the Judicial Council in 1936 and 1938 a considerable portion of the reports was devoted to this matter. The increased privileges which have been granted to the cults in some of the states have made this a matter of great importance to our members and to the public. As an accurate understanding of the principles involved is so necessary for the ethical practice of our profession, we are taking the liberty of quoting the decision rendered and reported in 1936:

> There are several general ethical principles underlying cult practice in its relation to medical practice as carried out by doctors of medicine. Primarily the basis for an ethical code is the well being of the people at large, who are dependent on the profession of medicine for their health. The profession of medicine is the custodian of the accumulated knowledge in medicine and should use it for the benefit of humanity. This knowledge, technical in nature and developed by experience, can be interpreted to the body of the people only by persons educated to understand it and trained to apply it. Of all those professing to heal the sick only the doctor of medicine has sufficient education and training to make use of the information already accumulated and keep abreast of that being developed continuously. We grant that even though this is true no one is compelled to choose only from this group in selecting his medical attendants. The individual may elect to receive his medical care from himself, his neighbor, osteopathy, chiropractic, naturopathy or Christian science, but he is not entitled while under the care of such irregulars to demand that the man educated in scientific medicine furnish opinion and advice to one so far deficient in education that he cannot so understand and apply that opinion and advice as to be able to make satisfactory use of it. Such degrading consultation would cheat the patient out of that which he might expect and the subsequent failure of results bring discredit on the science of medicine. If this is true of the occasional individual consultation, how much greater it must be in the case of repeated or continual miscegenation!
>
> The Judicial Council is in receipt of much correspondence attempting to justify if not to advocate consultations between doctors of medicine and chiropractors, osteopaths, Christian scientists and other cultists and irregular practitioners; also appearance before their societies, teaching in their schools, and their admittance to hospital practice on a parity with the medical profession. The universal argument for all the procedures mentioned is based on the false premise "to work them gradually into regular medicine." One of our principles of ethics is as follows: "The obligation assumed on entering the profession . . . demands that the physician use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness." Such specious argument as mentioned above seems to the Council to lack substance and be unreal. It seems impossible that knowledge gained through years of scientific laboratory work and teaching can be assimilated by those of less preliminary training and use of scientific methods of investigation and practice ever to fit them to enter a profession the dignity and honor of which, the standards and sphere of influence of which, we are obligated to uphold, exalt and extend for the service the profession can render to humanity. We further are of the opinion that it is just as unpractical to suggest that the small percentage of cult practitioners will through close relationship with the membership of our profession be raised to our professional standards as it is to expect the few rot-speckled apples in the apple barrel to become whole because of the preponderance of sound ones. We believe in continuous, complete separation between the true and the specious physician. Our traditional responsibility for the dissemination of sound scientific treatment for the people and for protection against the insidious influence of the weaker among our own is ever present. If and when the time comes that government through legislation places the cultist on the same legal plane with us, we must strive to maintain the aristocracy of learning and culture. A physical and professional separation as complete as is possible should be established and maintained.

The Judicial Council, having jurisdiction on all questions of ethics, is very much impressed by the lack of knowledge of the Principles of Medical Ethics of the American Medical Association by a great many members of the medical profession. It also notes with regret that there is too little instruction or explanation of these principles given during the students' course in the medical schools. Some medical schools include medical ethics in their courses of instruction, while others may have one or two lectures on the subject during the college year, but this does not accomplish proper indoctrination into the traditions of our profession. The importance of this condition is augmented greatly by the fact that between 7,000 and 8,000 graduates have been inducted into the military forces at the end of a nine month internship immediately following graduation. These men have had but little, if any, information regarding the Principles of Medical Ethics of the American Medical Association or the rules of conduct of a constituent association of a state in which they may locate after release from military service. In time of peace, this condition would be somewhat corrected by association during their internship with men serving on the visiting staffs of hospitals and by attending meetings of the local component society where the rules of conduct are often discussed and the practical applica-

tion of the Principles of Medical Ethics and rules of conduct are demonstrated. It is conceivable that the professional success of a young doctor may often be handicapped by the injudicious or unwise violation of these principles, thus proving a severe handicap for him to overcome. A great number of medical military officers will be released in the near future who may have little knowledge or understanding of our Principles of Medical Ethics. Therefore it would seem wise for the various state associations to inaugurate and encourage a course of instruction on the Principles of Medical Ethics and the rules of conduct, given either under the auspices of the state association or by its component societies. This, we feel quite certain, is as necessary to the doctor's ultimate and complete attainment of his aims as are any of the other plans for a continued postwar graduate course.

DETERMINATION OF POLICIES

It is quite evident that a certain weakness in our organization is due to a lack of understanding of the manner in which our Association functions in determining its policies. This condition is found to exist among members of practically every component society. It seems to us that it would be well worth while to develop some program by which one, when admitted to membership, would be indoctrinated in medical affairs. This would consist not only in the teaching of the Principles of Medical Ethics of the American Medical Association and the rules of conduct of the constituent associations but also of the manner in which the American Medical Association functions, beginning with the component society's relationship to the constituent association and its relationship to the parent association and describing in detail the manner in which matters developed in the component societies are brought to the state associations and thence to the national House of Delegates to become finally a policy of the organization. The democracy of the American Medical Association should be stressed emphatically and the fact that the policies are adopted only by the action of the House of Delegates. A complete description of the structure and procedure of the American Medical Association should be taught. Perhaps this might be accomplished by the publication of a pamphlet with a graph to show the structure and some illustrated cases of procedure to make the matter more readily understood.

DR. GEORGE EDWARD FOLLANSBEE

It is with profound sorrow we note the death on Jan. 1, 1945 of our late member, Dr. George Edward Follansbee. Associated with the Judicial Council for twenty years and serving as its Chairman for sixteen of them, Dr. Follansbee won the affection and respect of its members. His fine, judicial mind, years of experience and knowledge of the policies and traditions of our Association made him an invaluable member. He was admired, respected and loved not only for his tolerance, kindliness and patience toward those presenting their problems before the Council but also for his uncompromising attitude toward any proposed action which might tend to lower the standards, ideals or dignity of the medical profession. His ability to write opinions lucidly and succinctly was cause for favorable comment on many occasions. His activities were constantly directed toward maintaining the ideals of our Association, exalting the dignity of the medical profession and increasing its respect among the general public. Dr. Follansbee's many years of unremitting service in the interest of the American Medical Association makes his death a great loss to the entire profession but in particular to the Council, where we miss his sage advice and well balanced judgment. To us the place left vacant by his death will never be completely filled.

Respectfully submitted.

EDWARD R. CUNNIFFE, Chairman.
WALTER F. DONALDSON.
LLOYD NOLAND.
JOHN H. O'SHEA.

REPORT OF THE BOARD OF TRUSTEES

Council on Physical Medicine

At the 1944 annual session of the House of Delegates the name of the Council on Physical Therapy, so called during the nineteen years of its existence, was changed, by action of the House on recommendation of the Council and the Board of Trustees, to the Council on Physical Medicine. The change was felt to be desirable since physical agents coming under the scope of the Council's work include diagnosis as well as therapy and because the Council has for some time interested itself in occupational therapy, which is a branch of the broad field of physical medicine, and for other reasons.

With its new name the Council on Physical Medicine will continue as it has always functioned but will devote additional attention to problems coming under the broader scope.

The restrictions placed on raw materials due to the needs of war continued through 1944. Development of some new therapeutic and diagnostic equipment was limited. New equipment developed remained secret to the Army and Navy services, and practically no new apparatus was offered for sale to physicians. Many manufacturers almost entirely confined their output to the requirements of the armed services or for lend lease commitments, while others converted their facilities to the fabrication of materials of war. For these reasons fewer appliances have been submitted to the Council, and investigations of apparatus have been greatly curtailed.

Because specialists have been too busy in private practice to write papers or have been engaged with military duties, only a limited number of authoritative articles about physical medicine were prepared, considered and published. The Council has published eighteen reports and reported on fourteen devices in THE JOURNAL. Several other pieces of equipment have been investigated, but reports on them have not yet been published.

Each year the Council does a formidable amount of work investigating apparatus submitted. In some instances the investigations have revealed that products submitted have little or no value and, based on the reports of the Council and its investigators, in many instances the promoter will agree to withdraw the product from the market. In view of such cooperation, the Council holds its report in abeyance. However, the Council does not hesitate to publish reports announcing to the profession the true value of a questionable appliance. Many inquiries about physical medicine have been referred to the Council and have received attention.

DIATHERMY APPARATUS

Diathermy apparatus, as all physicians are aware, generates high frequency electrical energy which is comparable to that generated by radio transmitters. Not all of the electrical energy is absorbed by the tissues undergoing treatment; some of the high frequency energy escapes and is radiated into space, and this energy will in some instances unknown to the physician interfere with radio communication. The Council has cooperated with the Federal Communications Commission in an effort to solve this problem. The commission has carefully surveyed the field in which high frequency electrical energy is used and has recommended three channels for medical and industrial heating applications. The commission expects that all diathermy equipment manufactured henceforth will maintain the frequency within the limits prescribed.

Although the commission has not declared a time limit, a reasonable period of probably five years will doubtless be allowed for physicians to liquidate their diathermy equipment, screen it, dispose of it or purchase apparatus which will be frequency controlled.

PUBLICATIONS

A completely revised Handbook on Physical Medicine containing several new, authoritative and valuable articles has been published and is ready for distribution.

The Manual of Occupational Therapy, consisting of articles first published in WAR MEDICINE, has been assembled and made into pamphlet form. The American Occupational Therapy Association and the Subcommittee on Rehabilitation of the National Research Council, together with specialists of the Council in this field, have cooperated in its preparation.

COUNCIL CONSULTANTS

Physical medicine embraces many specialized fields. The Council on Physical Medicine, consisting of twelve members, can scarcely be expected to have all the critical and authoritative information regarding all problems that are presented to it, and it is therefore fortunate in having groups of consultants, giving their services gratuitously as do the members of the Council, who advise on problems arising in specialized fields. There are consultants on audiometers and hearing aids, on respirators, on roentgen ray equipment, on contraceptive devices, on ophthalmic devices, on electrocardiographs, on education and on artificial limbs. Consultants on occupational therapy and on electroencephalography recently have been added to this group.

EDUCATION

In all matters pertaining to postgraduate training of physicians planning to specialize in physical medicine and to the education of physical therapy and occupational therapy technicians, the Council has consulted with other authoritative groups in the field. The Council has cooperated with the Council on Medical Education and Hospitals, the American Registry of Technicians of the American Congress of Physical Medicine and the American Physiotherapy Association.

To assist in promotion of sound physical therapeutic measures in the medical corps of the armed forces, the Council prepared two sets of slides which may be borrowed for instructional purposes. These slides are now available to schools of medicine, medical societies, clinics and interested civilian medical groups. The Council is now undertaking, with the help of its consultants, the revision of films for instructional purposes.

AUDIOMETERS AND HEARING AIDS

The manufacturers of hearing aids were very active during the war. Hearing aids were considered vital to the war effort, and, since the amount of raw materials required to make one unit is very small, governmental agencies made materials available. With the help of its consultants on audiometers and hearing aids the Council has prosecuted its examinations of audiometers and hearing aids and has published reports on them. The Council greatly appreciates the cooperation and advice it has received from the American Academy of Ophthalmology and Otolaryngology, the American Otological Society, the American Laryngological, Rhinological and Otological Society and the American Society for the Hard of Hearing and its several chapters.

OPHTHALMIC DEVICES

Orthoptics, which deals with the defective habits of seeing and with the defects of binocular vision and of ocular motility, has been given consideration by the Council. The consultants on ophthalmic devices, who are also members of the American Committee of Optics and Visual Physiology, have given valuable assistance in the investigation of charts for testing vision, muscle balance, instruments for orthoptic training and other devices utilized in the ophthalmic field.

ARTIFICIAL RESPIRATION AND RESUSCITATION

At the request of the Council on Physical Medicine the Board of Trustees awarded substantial grants for investigation of artificial respiration and resuscitation. Five years ago a grant was awarded for a survey of artificial respiration which has now been completed, and the report of this survey is ready for publication. The information gathered by the investigators confirms the Council's stand concerning the acceptance or rejection of devices for administering mechanical respiration. Since apparatus is seldom on hand in an emergency, the Council believes that every person should know how to give artificial respiration by an approved manual method. Critical evidence indicates that the first five minutes of complete anoxia are the most important, and artificial respiration should be applied within this period if any hope of survival of the patient is expected. The chances of survival are considerably lessened if artificial respiration is applied later. Hence the Council has cooperated with the American Red Cross in educational activities promoting the manual method of artificial respiration.

(To be continued)

Bureau of Information

SUMMARY SHEETS FROM VERMONT AND VIRGINIA

Completed county summary sheets have been received from counties in Vermont through Dr. Benjamin F. Cook, secretary, Vermont State Medical Society, and from Virginia through Miss Agnes V. Edwards, executive secretary, Medical Society of Virginia.

The accompanying tables give data from selected counties in these states. The column giving the number of persons per telephone is used as one index of the economic status of the area. Many physicians over 65 years of age are carrying on large practices and are doing much to maintain the health of communities. They are not included in computing physician population ratios, however, as the future needs of the communities will be largely dependent on younger physicians.

Vermont

County [1]	Principal Cities [2]	Population	Physicians Under 65	Persons per Physician	Persons per Telephone [3]
Addison		14,853	8	1,856	9
Bennington		20,853	10	2,085	8
	Bennington	7,628			
Caledonia		21,793	12	1,816	7
	St. Johnsbury	7,437			
Essex		5,389	2	2,695	15
Grand Isle		3,176	1	3,176	8
Lamoille		9,218	5	1,844	9
	Morristown	3,130			
Orange		17,038	4	4,259	9
	Randolph	3,278			
Rutland		39,009	21	1,857	7
	Rutland	17,082			
	West Rutland	2,922			
Washington		34,075	20	1,704	6
	Barre	10,909			
	Montpelier	8,006			
	Waterbury	3,074			
Windham		25,148	16	1,572	6
	Brattleboro	9,622			
	Bellows Falls	4,236			

Virginia

County [1]	Principal Cities [2]	Population	Physicians Under 65	Persons per Physician	Persons per Telephone [3]
Bath		5,647	3	1,882	12
Buckingham		11,106	3	3,702	142
Culpeper		11,997	6	1,999	12
Floyd		10,626	3	3,542	7
Gloucester		9,426	3	3,142	28
Halifax		36,447	5	7,289	48
	South Boston	5,252			
Northampton		16,202	10	1,620	27
Rappahannock		6,102	2	3,051	36
Smyth		27,084	12	2,257	27
	Saltville	2,650			
Warren		11,386	7	1,626	14
	Front Royal	3,831			

1. Bureau of Census, estimated population 1943.
2. Bureau of Census, population 1940.
3. Based on 1940 figures, American Telephone and Telegraph Company.

A current knowledge of needs of communities for doctors is essential if adequate help is to be given veteran medical officers in their problems of medical practice. These needs can be indicated on the summary sheets under "Remarks" by the state and county secretaries and are then available to inquiring medical officers. Frequent reports from state and county medical societies about needs of communities for doctors will help maintain current files and will increase the service of the Bureau.

With the information available on a completely filled out summary sheet, it is readily possible for an interested medical officer to make an initial selection of areas in which he might like to practice. Since vacancies are held open in many communities for doctors now in military service, further investigation by direct correspondence with state and county medical societies will always be necessary to insure an accurate report of the needs of individual communities.

Washington Letter

(From a Special Correspondent)

Oct. 15, 1945.

Discussion of Psychiatric Problems by Canadian Health Official

Psychiatric problems of returning veterans will be discussed here by Major Gen. G. Brock Chisholm, deputy minister of national health and welfare in Canada, who is to speak on the first of two programs on "The Reestablishment of Peacetime Society; Responsibilities of Psychiatrists," Tuesday and Wednesday in Interior Department Auditorium. General Chisholm will spend the week in conferences with U. S. officials and psychiatrists concerned with veterans' problems. He conferred today with officials of the U. S. Public Health Service and Tuesday was to talk at the Navy Medical Center, Bethesda, Md. He will be in Baltimore Thursday to visit the Henry Phipps Psychiatric Clinic at Johns Hopkins Hospital and the Sheppard and Enoch Pratt Hospital. Friday he will inspect St. Elizabeths Hospital in Washington. Head of the Canadian Army Medical Corps during the war, General Chisholm has been active in creating an understanding of servicemen's points of view. Also taking part in the program will be Secretary of Commerce Henry Wallace, who will appear on a panel discussion with government officials and psychiatrists Wednesday evening. With him in the discussion will be Undersecretary of the Interior Fortas, Gen. Omar N. Bradley, Veterans Administrator; Watson B. Miller, federal security administrator; Anthony Hyde, deputy director of the Office of War Mobilization and Reconversion; Major Gen. Paul R. Hawley, acting Surgeon General of Medical Service of the Veterans Administration, and Dr. Harry Stack Sullivan, president, Washington School of Psychiatry. Both programs, open to the public, are sponsored by the William Alanson White Psychiatric Foundation.

Miniature X-Ray Apparatus Is Demonstrated

In connection with the fiftieth anniversary of the discovery of the x-rays by Wilhelm Conrad Roentgen a new miniature x-ray apparatus, developed after three years' research, which speeds up the process so that a thousand chest pictures may be taken in an eight hour day, is being demonstrated. The 70 mm. unit is used for screening indications of the disease and is operated with the use of a recent discovery known as a phototimer developed by Dr. Russell H. Morgan and Dr. Paul Hodges of the University of Chicago. Capt. Milton Birnkrant, Army physician associated with the U. S. Public Health Service, is demonstrating the miniature x-ray equipment in New York and states that, while previously an x-ray picture cost 60 cents, the new, smaller picture can be taken for 3 cents. He declares that the rapid survey of whole communities and industries is now feasible.

Security Restrictions Lifted on Powerful Rat Poison

Security restrictions have been lifted on publication of information about ANTU, rat poison so powerful that 1 pound could kill 300,000 rats. It is not dangerous to man. The poison has been a closely guarded secret during the war. Facts about the poison are revealed in *Public Health Reports*. Credit for the discovery goes to Dr. Curt P. Richter of Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore. The word ANTU is from the initial letters of the chemical name alpha-naphthyl thioureau. It is a fine gray powder with little odor or taste. It acts exclusively on rats, killing in an unusual way by causing a dropsy of the lungs so great that the animals are drowned in this fluid from their own bodies.

Navy Losses Through Mental Disorders

Vice Admiral McIntire, submitting figures to the House Naval Affairs Committee prepared by Capt. Francis J. Braceland, chief of the navy's neuropsychiatric division, said that the Navy, with a wartime strength of 3,385,000, lost the services of 171,267 men through emotional and mental disorders, insanity and inaptitude. At the conclusion of his testimony Chairman Vinson, Democrat of Georgia, recommended that the Navy establish its own hospital for mental disease "in the central part of the United States." He asked Admiral McIntire to come before the committee some time before Christmas with recommendations.

Meeting in Washington of Airlines Medical Directors

The executive council of the Airlines Medical Directors Association met here to discuss problems attendant on expanded commercial air travel. The party was headed by Dr. Hodges McKnight of Fort Worth, Texas, president, representing American Airlines, and attending were Col. A. D. Tuttle, Chicago, United Air Lines; Dr. Frederick H. Shillito, New York, Pan American Airways; Dr. Francis N. Kimball, New York, American Export Airlines, Inc.; Dr. Howard K. Edwards, Miami, Eastern Airlines, and Dr. L. G. Lederer, medical director and director of personnel administration of Pennsylvania-Central Airlines.

Extension of Child Care Centers Predicted

Chairman Fritz G. Lanham of the House Public Buildings and Grounds Committee, father of the Lanham act, has predicted that the Federal Works Agency will keep the wartime child care centers in operation past the scheduled October 31 closing date. The FWA states that extension of the program rests entirely with Congress. George H. Field, commissioner of the FWA Bureau of Community Facilities, says that the agency requires some of the $19,000,000 of Lanham act money the House Appropriations Committee plans to repeal if the centers are to be kept open. There has been a nationwide clamor from mothers for continuance of the program.

Two Distinguished Women Scientists Honored

Drs. Ida Bengston and Alice Evans were honored by Surgeon General Thomas Parran and more than a hundred of their friends and colleagues on their retirement after being with the U. S. Public Health Service since 1918 and 1916 respectively. Dr. Evans identified undulant fever in 1923, contracting the disease during her work on it. Dr. Bengston, during 1935 and 1936, prepared the standard for gas gangrene toxins and antitoxins now used by the League of Nations Health Committee in Copenhagen.

Reduction in Size of Army

Secretary of War Patterson reports that all but 1 million of the 8 million men in the Army will be discharged by next July. It is to be expected that a proportionate number of medical officers will be released to civilian duty. Mr. Patterson declared that personnel will be released as fast as possible. He said that the Army's discharge rate is now 26,000 a day and that more than a million men have been released since V-E day. He argued for retention of the draft, declaring that the Army is counting on 50,000 draftees and 30,000 volunteers each month.

Coming Medical Meetings

American Medical Association House of Delegates, Chicago, Dec. 3-6. Dr. Olin West, 535 N. Dearborn St., Chicago 10, Secretary.

American Ophthalmological Society, Hot Springs, Va., Nov. 12-14. Dr. Walter S. Atkinson, 129 Clinton St., Watertown, N. Y., Secretary.

American Society of Tropical Medicine, Cincinnati, Nov. 12-15. Dr. Joseph S. D'Antoni, Tulane Ave., New Orleans 13, Secretary.

Indiana State Medical Association, French Lick, Nov. 6-8. Mr. Thomas A. Hendricks, 23 E. Ohio St., Indianapolis 4, Secretary.

Southern Medical Association, Cincinnati, Nov. 12-15. Mr. C. P. Loranz, Empire Bldg., Birmingham 3, Alabama, Secretary.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CONNECTICUT

Personal.—Dr. John E. Flaherty, Rockville, has been elected chairman of the state fish and game board for two years. —Dr. Clarence G. Thompson, Norwich, has been appointed health officer of the town of Preston.

Research on Penicillin.—The New Britain General Hospital, New Britain, has been given funds by the Office of Scientific Research and Development to organize a research laboratory to study the effectiveness of penicillin as a curative agent in the treatment of experimental syphilis in human beings. The investigation is part of a cooperative study being carried out in several large centers in the country under the direction of a subcommittee on venereal diseases of the National Research Council. Dr. Paul D. Rosahn, pathologist in charge of laboratories at the New Britain Hospital, has been named investigator by the Office of Scientific Research and Development.

ILLINOIS

Forty Years as Postmaster.—Dr. Guy F. Turner, Long Point, was entertained at a dinner recently in recognition of his completion of forty years of service as postmaster, it is reported. He retired from the position on August 31. The celebration was also said to be in honor of Dr. Turner's birthday.

Chicago

Robert Cunningham Joins the "Modern Hospital."—Mr. Robert M. Cunningham Jr., associate editor of *Hygeia*, has been named managing editor of the *Modern Hospital* of Chicago, succeeding Alden B. Mills who left October 13 to become superintendent of the Huntington Memorial Hospital, Pasadena, Calif. In addition to his work on *Hygeia*, which is the health magazine of the American Medical Association, Mr. Cunningham has been since 1937 director of public relations on a part time basis for Evanston Hospital, Evanston, Ill. He has written extensively for national magazines on medical and related topics. Before joining *Hygeia* in 1941, Mr. Cunningham was for three years a member of the staff of the Chicago Plan for Hospital Care, the nonprofit hospital prepayment organization. He served variously as assistant to the executive director, head of the hospital department and director of enrolment and public relations.

Faculty Changes at Illinois.—Effective September 1 the following members of the faculty at the University of Illinois College of Medicine have been promoted to the rank indicated:

Dr. Arthur R. Cooper, Oak Park, Ill., to professor of anatomy.
Dr. Roy L. Webb, Charleston, W. Va., to professor of anatomy.
Dr. Abraram R. Hollender, Miami, Fla., to professor of otolaryngology.
Dr. Warren S. McCulloch, to professor of psychiatry.
Dr. William H. Cassels, to professor of surgery.
Robert H. Krehbiel, Ph.D., to associate professor of anatomy.
Dr. Oliver E. VanAlyea, to clinical associate professor of otolaryngology.
Dr. Richard W. Watkins, to clinical associate professor (Rush) of otolaryngology.
Dr. Ford K. Hick, Oak Park, Ill., to associate professor of medicine.
Dr. Theodore J. Wachowski, to associate professor of radiology.
Dr. Benjamin D. Braun, to clinical assistant professor of radiology.
Dr. Harold C. Lueth, Evanston, Ill., to associate professor of medicine.
Dr. James B. Eyerly, to clinical professor of medicine.
Dr. Loren W. Avery, to clinical professor of neurology.
Dr. Ben W. Lichtenstein, to associate professor of neurology.
Dr. Hiram J. Smith, to associate professor of ophthalmology.
Dr. Carl Apple, to associate professor of ophthalmology.
Dr. Louis Bothman, to clinical professor of ophthalmology.
Dr. Ralph Spaeth, to assistant professor of pediatrics.
Dr. Gertrude E. Howe, Cincinnati, to assistant professor of pediatrics.
Dr. Carl Ireneus Jr., to assistant professor of surgery.
Dr. Roy O. Riser, Park Ridge, Ill., to assistant professor of ophthalmology.

This year for the first time the University of Illinois is using the word clinical for its part time faculty members who are in the clinical departments.

IOWA

Clarence Van Epps Retires.—Dr. Clarence E. Van Epps has retired from his administrative activities at the State University of Iowa College of Medicine, Iowa City, after twenty-six years in the position. The state medical journal reports that Dr. Van Epps will continue his work on a part time basis.

Investigation of Abortion Ring Follows Physician's Arrest.—Investigation into activities of an alleged abortion ring was started September 22 in Rockford following the arrest of Dr. Manly H. Shipley, Rockford, Ill., according to the Davenport *Times*. A newspaper report indicated that a woman had informed the state's attorney's office that the physician had performed an illegal operation. At the time of a raid on Dr. Shipley's offices 7 women were taken into custody for questioning; 5 were patients, according to the physician, and the other 2 were said to be nurses employed by him.

Course on Tropical Diseases.—A course on laboratory diagnosis of malaria and tropical diseases will be held at the Iowa State Hygienic Laboratory, Iowa City, October 29-November 3. The course is sponsored by the State University of Iowa College of Medicine and the state department of health in cooperation with the U. S. Public Health Service. Travel and other expenses of those who attend will be met with funds derived from the public health service. The course will be similar to one conducted July 23-28 (THE JOURNAL, May 19, p. 216).

MICHIGAN

Research of Virus Diseases.—Research on virus diseases will be initiated at the Wayne University College of Medicine, Detroit, this fall, following acceptance by the Board of Education of a grant of $2,500 plus equipment from Dr. Hugo A. Freund, Detroit, and the children's fund of Michigan, according to the *Detroit Medical News*.

State Medical Election.—Dr. William A. Hyland, Grand Rapids, was named president-elect of the Michigan State Medical Society at the meeting of the council on September 18. Dr. Ray S. Morrish, Flint, was inducted into the presidency. The next annual session of the State Medical Society will be held at the Book-Cadillac Hotel, Detroit, September 25-27.

Dr. Pelouze Lectures on Venereal Disease.—"The Modern Treatment of Gonorrhea" will be the theme of a series of lectures to be given throughout the state of Michigan beginning in Lansing, October 30, by Dr. Percy S. Pelouze, Philadelphia. The series will be presented under the auspices of the council and committee of postgraduate medical education of the Michigan State Medical Society.

Hospital Urges Patients to Return to Former Physicians.—The staff of Mount Carmel Mercy Hospital in Detroit has recently distributed to its members a placard with the following notice printed on it and intended to be posted in the waiting room of the various staff members:

If you have been a patient here because your doctor has been a member of the armed forces, we suggest that you contact him upon his return.

NEW YORK

Cancer Teaching Day.—On November 1 a cancer teaching day will be held at the St. Lawrence State Hospital, Ogdensburg, under the auspices of the Medical Society of the County of St. Lawrence, St. Lawrence State Hospital, Medical Society of the State of New York, and the New York State Department of Health division of cancer control. Speakers will include:

Dr. Morton L. Levin, Albany, Cancer Incidence, Prevalence and Mortality.
Dr. Cushman D. Haagensen, New York, Cancer of the Breast.
Dr. Clyde L. Randall, Buffalo, Diagnosis and Treatment of Cancer in the Female Pelvis.
Dr. Lloyd F. Craver, New York, Leukemias and Hodgkin's Disease.

New York City

Proposed Alfred Smith Memorial.—On October 4 a campaign to raise $3,000,000 to construct the Alfred E. Smith Memorial Hospital was launched with a dinner at the Hotel Waldorf-Astoria. The memorial will be a sixteen story addition to St. Vincent's Hospital. The 250 beds planned in the new structure will include 100 additional ones in the charity wards and 80 more for semiprivate patients. The hospital will be a "living memorial" perpetuating Alfred Smith's services to his fellow man. The dinner to launch the campaign for funds was held on the first anniversary of his death.

Neva R. Deardorff to Establish System for Health Insurance Plan.—Neva R. Deardorff, Ph.D., New York, assistant executive director of the Welfare Council of New York City, has been appointed to the staff of the health

Insurance Plan of Greater New York to establish a uniform method of collecting and correlating all records of service to members of the plan, according to the New York *Times*. In announcing the appointment it was stated that there is a great need to know the frequency and duration of illness, the need for medical care and the frequency of doctor's services rendered.

Lectures to the Public.—"Medicine Today" is to be the theme of the Laity Lectures Series for 1945-1946 under the auspices of the New York Academy of Medicine. The lecturers will be:

Dr. John F. Fulton, New Haven, Conn., November 8, Medicine Today.
Dr. Willard C. Rappleye, New York, November 29, The Making of the Doctor.
Drs. Basil C. Maclean, Rochester, and Donald M. Clark, Peterborough, N. H., December 13, The Ways and Means of Modern Medicine.
Edwin J. Cohn, Ph.D., Boston, December 27, Research in the Medical Sciences.
Dr. Edward S. Rogers, Albany, January 10, The Layman's Part in Medicine.
Dr. Dean A. Clark, Washington, D. C., January 24, Economics and Medicine.

Medical College Plans Expansion.—The dean of two major departments, that of biophysics and one on humanities in relation to medicine, is included in the general program of expansion planned at the New York University College of Medicine, New York. In addition the program includes the introduction of a premedical year in the college to graduate physicians in seven instead of eight years after high school. According to the New York *Times* the four points in the program are:

Full recognition of medicine as a social science, with emphasis both in teaching and in practice on the environment and psychologic aspects of illness.
Increased instruction in the physical sciences of biology, chemistry and especially physics.
A planned research program based on the coordinated work of many departments and directed toward the solution of selected major medical problems.
A plan of community medical care to provide comprenhensive diagnosis and treatment under a prepayment group practice system.

In a statement Dr. Donal Sheehan, New York, acting dean of the medical college, said that "emphasis will be placed on the social and psychologic causes of illness and on the effects of living and working conditions on human welfare. These factors are coming to be the chief cause of ill health in modern urban communities. To give the doctor breadth of view he must also know something of the history, the ideals and the economic problems of medicine. To offset the tendency to make the modern doctor a mere technical specialist, a new department dealing with the humanities in relation to medicine is projected."

NORTH CAROLINA

Robert Stimpson Resigns as Vital Statistics Head.—Dr. Robert T. Stimpson, Raleigh, who has been director of the division of vital statistics of the North Carolina Board of Health, has resigned to enter private practice in Winston-Salem. Dr. Stimpson, who graduated at the University of Pennsylvania School of Medicine, Philadelphia, in 1927, joined the state board of health in January 1932 as assistant director of the division of vital statistics.

New Head of Pathology Department.—Dr. Robert P. Morehead, Wake Forest, associate professor of pathology, has been appointed director of the department of patholgy and bacteriology at Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, to succeed Dr. Coy C. Carpenter, who asked to be relieved of the direction of the department because of the pressure of administrative duties as dean. Dr. Carpenter will continue to be a member of the staff of the department, assuming the title of professor of legal medicine and director of the laboratory of clinical pathology.

Meeting of Pathologists.—The North Carolina Pathological Society met at the Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, on September 7. The program included the following:

Col. Alfred Blumberg, M.C., Fort Bragg, Rhinosporidiosis.
Dr. Valy Menkin, Durham, Leukopenia and Inflammation.
Dr. Bernard Black-Schaffer, Durham, Pathogenesis of Purpura Meningococcemia.
Dr. Lalla Iverson, Durham, Chloroma, Report of Two Cases.
Dr. Hugh Dortch Jr., Durham, Sensitization to Placental Products as a Cause of Toxemia of Pregnancy.
Dr. Paul Kimmelstiel, Charlotte, Lymphoid Hyperplasia of the Thyroid and Ischemic Infarctions of the Prostate.

Dr. Frank W. Konzelmann of Atlantic City, N. J., president of the American Society of Clinical Pathologists, spoke at the dinner meeting on "The Economics of the Pratice of Pathology." At the business meeting the following officers were elected: Dr. Hershel C. Lennon, Greensboro, president, Dr. Kimmelstiel vice president and Dr. Wilbur C. Thomas, Winston-Salem, secretary-treasurer.

Personal.—Dr. George A. Hays, who recently returned to the United States from Alaska, where he was executive director of the Territorial Department of Health (THE JOURNAL, August 4, p. 1040), has been placed in charge of the Charlotte Health Department pending the appointment of a successor to Dr. William R. Cameron.——Mr. Reid Holmes, assistant superintendent of Duke Hospital, Durham, has been named administrator to succeed Mr. Ray E. Brown, who resigned to become assistant director of the University of Chicago Clinics.——Joseph E. Hawkins Jr., Ph.D., formerly instructor in physiology and special research associate in the psychoacoustic laboratory at Harvard Medical School, Boston, has joined the faculty of the Bowman Gray School of Medicine as assistant professor of physiology and pharmacology.

OHIO

Library Named for Woman Physician.—The medical library at Dunham Hospital, Cincinnati, has been named in honor of Dr. Vera V. Norton, who was associated with the hospital until her recent retirement. *Women in Medicine* reports that this library is one of the most valuable on the subject of tuberculosis.

New Chief of Industrial Hygiene Appointed.—Dr. Charles M. McGill, U. S. Public Health Service, has been named chief of the industrial hygiene division of the Ohio State Department of Health. He succeeds Dr. Christopher Leggo, who resigned several months ago. Dr. McGill graduated at Vanderbilt University School of Medicine, Nashville, Tenn., in 1935. He was commissioned in the U. S. Public Health Service in 1936 and subsequently served in various capacities throughout the country. In July 1945 he completed a postgraduate course at the Harvard School of Public Health, Boston, and received a degree of M.P.H. in industrial hygiene.

OKLAHOMA

Annual Clinical Conference.—The fifteenth annual clinical conference of the Oklahoma Clinical Society will be held at the Biltmore Hotel, Oklahoma City, November 26-29. The guest lecturers will be:

Dr. Lewis G. Allen, Kansas, Radiology.
Dr. Walter Putnam Blount, Milwaukee, Orthopedic Surgery.
Dr. Louis A. Brunsting, Rochester, Minn., Dermatology.
Dr. Richard B. Cattell, Boston, Surgery.
Dr. Warren Henry Cole, Chicago, Surgery.
Dr. Virgil S. Counseller, Rochester, Minn., Surgery.
Dr. Charles Brenton Huggins, Chicago, Urology.
Dr. Ernest E. Irons, Chicago, Internal Medicine.
Dr. Raymond William McNealy, Chicago, Surgery.
Dr. Avery D. Prangen, Rochester, Minn., Ophthalmology.
Dr. Jean Paul Pratt, Detroit, Gynecology.
Dr. Chester A. Stewart, New Orleans, Pediatrics.
Dr. Charles Turner Stone, Galveston, Texas, Internal Medicine.
Dr. Theodore E. Walsh, St. Louis, Otolaryngology.
Dr. Frank E. Whitacre, Memphis, Tenn., Obstetrics.
Dr. Solon M. White, Minneapolis, Internal Medicine.

SOUTH CAROLINA

Annual Refresher Course.—The Medical College of the State of South Carolina, Charleston, will hold its annual refresher course October 31-November 2. Among the speakers will be:

Dr. Thaddeus L. Montgomery, Philadelphia, Bleeding in Obstetrics.
Dr. Richard Kovacs, New York, Physical Medicine and the General Practitioner.
Dr. Charles F. McKhann, Detroit, Advances in Pediatric Therapy.
Dr. Hal M. Davison, Atlanta, Ga., Allergy and General Medicine.
Dr. Walter C. Alvarez, Rochester, Minn., New Developments in Gastroenterology.
Dr. Robert B. McIver, Jacksonville, Florida, Abdominal Pain and Noncalculous Obstruction of the Upper Urinary Tract: Diagnosis and Surgical Management.
Dr. Eli Jefferson Browder, Brooklyn, Surgery for Pain.
Dr. Jean Verbrugge, Brussels, Belgium, Basic Principals of Fracture Surgery.
Dr. John S. Lockwood, New Haven, Conn., Recent Advances in Prevention and Treatment of Surgical Infection.

The program will include clinical case presentations and round table discussions. At the founder's day banquet at the Francis Marion Hotel, November 1, Dr. Alvarez will speak on the "Emergency of Modern Medicine from Ancient Folk-Ways."

TEXAS

Speakers' Bureau Formed to Combat Socialized Medicine.—The Texas State Medical Association has created a speakers' bureau, members of which will be available to give talks on socialized medicine to state lay organizations, civic clubs, P. T. A. groups, American Legion posts, chambers of commerce, women's clubs and other representative organizations. The members of the speakers bureau were chosen by the fifteen councilor districts of the state association.

Personal.—Chauncey D. Leake, Ph.D., vice president, University of Texas Medical Branch, Galveston, has been elected corresponding member of the Academy of Sciences of Lima. —Charles M. Pomerat, Ph.D., professor of anatomy, University of Texas Medical Branch, Galveston, has been elected an honorary member of the Academy of Sciences of Mexico. Dr. Pomerat recently spent six weeks in Mexico City as the guest of the academy and of the school of medicine to assist in the establishment of tissue culture laboratories.

Medical Foundation Campaigns for Funds.—Announcement of a campaign to raise a five year operating fund of $1,300,000 for the Southwestern Medical Foundation, Dallas, has been received from Dr. Edward H. Cary, foundation president. A fund of $1,000,000 is now held by the foundation for the building of the main plant of the Southwestern Medical College of the Southwestern Medical Foundation, which will be constructed adjacent to the new $7,000,000 City-County Hospital as the nucleus of a new medical center in Dallas.

Child Health Council.—On August 12 the organization of the Texas Child Health Council was completed with the following members:

Dr. Frank H. Lancaster, Texas Pediatric Society.
Dr. John E. Ashby, Dallas, American Academy of Pediatrics.
Dr. Holman Taylor, Fort Worth, State Medical Association of Texas.
Dr. Fred P. Helm, Austin, Texas State Board of Health.
Dr. Thomas J. McElhenny, Austin, American Academy of Pediatrics, Texas Section.
Dr. James H. Park Jr., Houston, Baylor University, College of Medicine, Department of Pediatrics.
Dr. Hugh L. Moore, Dallas, Southwestern Medical College, Department of Pediatrics.
Chauncey D. Leake, Ph.D., Dean, University of Texas Medical Branch, Galveston.
F. Elliott, D.D.S., Houston, dean, University of Texas School of Dentistry.
Dr. Boyd Reading, University of Texas School of Medicine Department of Pediatrics.
Dr. George M. Decherd Jr., Galveston, director, Postgraduate Education, University of Texas Medical Branch.
Dr. Arild E. Hansen, Dallas, University of Texas child health program.

According to the *Texas State Journal of Medicine,* unable to be at the conference, but presumably considered a part of the personnel of the Council, were Dr. Cobb O. Terrell, Fort Worth, regent of the University of Texas, who was invited as a representative of pediatricians at large; Robert R. L. Sutherland, Ph.D., Austin, director, Hogg Foundation, and W. A. Buckner, D.D.S., Austin, dental consultant, Maternal and Child Health Division of the Texas State Board of Health. The functions of the Texas Child Health Council as set up at the first meeting are to:

Correlate, encourage and initiate activities which concern the medical and dental aspects of the child health problem in Texas, recognizing the essential and necessary leadership of physicians and dentists in these matters.
Integrate pediatric meetings and conferences and foster special ones.
Stimulate investigative activities: clinical problems and fundamental research.
Aggressively cooperate in programs pertaining to child health carried on by professional, semiprofessional and lay groups, under the leadership of physicians and dentists.
Point out the present unsatisfactory status of hospital facilities for children in Texas and institute measures to improve these conditions.
Cooperate with the state board of health in reducing child mortality and the high incidence of preventable children's diseases.
Assist in promoting more effective pediatric training programs for Texas pediatricians, general physicians and others concerned with child health.

WISCONSIN

Jackson Clinic Resumes Postgraduate Series.—With a special program September 29 the Jackson Clinic, Madison, resumed its postgraduate clinics, which had been held bimonthly the past twenty years until 1941.

State Medical Golfers Organize.—The Wisconsin State Medical Golfers' Association has been organized with Drs. George R. Love, Oconomowoc, the first president, Joseph C. Griffith, Milwaukee, vice president, and Ernest W. Miller, Milwaukee, secretary-treasurer. The first tournament was held at the Ozaukee Country Club, August 30.

Ira Thompson Honored.—The Racine County Medical Society gave a dinner at the Meadowbrook Country Club, Racine, September 20, in honor of Dr. Ira F. Thompson, who is retiring as health officer of Racine (THE JOURNAL, June 30, p. 678). The speakers at the dinner included Drs. Carl N. Neupert, Madison, state health officer; William T. Clark, Janesville,; Albert E. Rector, Appleton; Stephen E. Gavin, Fond du Lac; George W. Walter, Racine, president of the county medical society; T. Charles Hemmingsen, Russell M. Kurten, all of Racine, and W. W. Bauer, formerly health officer of Racine and now director of the Bureau of Health Education of the American Medical Association. Dr. Thompson, who was presented with a gold mounted pen and pencil set, will continue as vice president of the state board of health. He is retiring to a farm near Beloit.

GENERAL

Edwin MacEwan Named to New Position with Cancer Society.—Mr. Edwin J. MacEwan has resigned as executive vice president of the chamber of commerce of New Haven, Conn., to become administrative director of the American Cancer Society, effective October 1. The appointment is a newly created one.

Course in Endocrinology.—The American College of Physicians will sponsor a course in endocrinology at the Hotel Continental, Chicago, November 5-10. The course offers an opportunity for physicians to bring themselves up to date in the field of endocrinology. The faculty of fifty-two includes many leading endocrinologists from all over the United States and Canada. Numerous institutions are represented. Dr. Willard O. Thompson, Chicago, is director of the course.

Macy Foundation Receives Gift.—The Josiah Macy Jr. Foundation of New York will receive the residuary estate of Mrs. Kate Macy Ladd, Peapack-Gladstone, who died August 27, according to the New York *Times,* September 14. Another provision for the foundation is contained in a clause in her will creating a fund of $2,500,000 and stipulating that the income shall be used to initiate, stimulate, develop and support scientific investigations of the fundamental aspects of health, sickness and relief of suffering.

Relation of Atomic Bomb to X-Rays.—Dr. Robert S. Stone, professor of roentgenology, University of California School of Medicine, San Francisco, will discuss the connection between x-rays and the atomic bomb at the memorial dinner in honor of Wilhelm Conrad Roentgen at the Palmer House, Chicago, November 8 under the auspices of the American College of Radiology, Chicago Medical Society, Chicago Roentgen Society, Institute of Medicine of Chicago and the Physics Club of Chicago. The dinner will be one of the features of the week designated "x-rays in health week of the American College of Radiology" (THE JOURNAL, October 6, p. 471).

The Salmon Lectures.—Dr. Roy Graham Hoskins, research associate in physiology, Harvard Medical School, Boston, Salmon memorial lecturer for 1945, will deliver his lecture series "The Biology of Schizophrenia" on the three successive Friday evenings of November 2-16 at the Academy of Medicine, 2 East 103d Street, New York (THE JOURNAL, March 3, 1945, p. 535). Of the three lectures, the first will be "Biology of Man in Relation to Schizophrenia," the second "The Pattern of Schizophrenia" and the third "The Biological Appraisal of Schizophrenia." The lectures are sponsored by the Salmon Committee on Psychiatry and Mental Hygiene, 200 Retreat Avenue, Hartford 2, Connecticut.

Annual Report of Nutrition Foundation.—The Nutrition Foundation, New York, has just released its annual report for the year ended June 30, 1945. The foundation, since 1942, has allocated $921,190 for fundamental research in the science of nutrition, covering the following six areas of activity: research directed toward discovering and measuring the human requirements for each of the forty or more essential nutrients, how each nutrient functions in the body, nutritive requirements for infants and mothers, relationships between nutrition and health, education to facilitate the application of new and sound information and projects undertaken chiefly as a direct contribution toward winning the war. The report discusses the various research projects carried out under the auspices of the foundation and may be obtained from the foundation offices in the Chrysler Building, New York 17.

Expansion of Winthrop Research Laboratories.—The Winthrop Chemical Company has announced the purchase of a 60 acre site at Rensselaer, N. Y., where new research laboratories will be constructed at a cost of more than two million dollars. According to Dr. Theodore G. Klumpp, New York, president of the company, the new structure will be situated close to the present plant and laboratory facilities and will replace the existing research laboratories. In addition, Sterling Drug, of which Winthrop is a subsidiary, will utilize the new laboratories to supplement research of its other units. Construction is expected to start next spring and to be completed within a year. In addition to offices, the administrative wing will have space for an 80,000 volume technical library. The biologic wing will contain twenty-five laboratory

units, together with rooms for photography, x-ray and extreme temperature testing. The chemistry wing will have thirty-two laboratory units as well as special chemical and development facilities and a pilot development plant.

Research Fellowships in Medicine.—The American College of Physicians announces the resumption of its research fellowships in medicine, which were discontinued during the war. These fellowships, limited in number, are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in internal medicine. Assurance must be provided that the applicant will be acceptable in the laboratory in which he has chosen to work and that the laboratory will supply the facilities necessary for the proper pursuit of the research. The term of appointment is for one year. The fellowship stipend will be from $1,800 to $2,500 per annum. Application forms for 1946 fellowships will be supplied on request to the American College of Physicians, 4200 Pine Street, Philadelphia 4, and must be submitted in duplicate not later than November 1. Awards will be made on or about November 18. Dr. Francis G. Blake, New Haven, Conn., is chairman of the committee on fellowships and awards.

Course in Allergy.—The American College of Allergists announces an instructional course at Thorne Hall, Northwestern University, Chicago, November 5-10. The course is free to all those serving in the armed forces. Among the speakers will be:

Dr. Paul R. Cannon, Chicago, Experimental Allergy.
Dr. Carl Dragstedt, Chicago, Materia Medica of Allergy and Pharmacology of Drugs Used in Allergy.
Dr. Albert D. Ruedemann, Cleveland, Ocular Allergy.
Dr. Andrew C. Ivy, Chicago, Reaction from Blood Transfusion.
Dr. Alvan L. Barach, New York, Inhalation Therapy of Bronchial Asthma.
Drs. Foster Kennedy, New York and Bayard T. Horton, Rochester, Minn., Allergy of the Central Nervous System—Migraine and Ménière's Disease.
Dr. John Warrick Thomas, Richmond, Va., Allergic Bronchitis, Bronchiectasis.
Dr. Theron G. Randolph, Chicago, Miscellaneous Allergies—Agranulocytosis.

At an informal dinner Monday, the first day, William H. Welker, Ph.D., will speak on "Antigenicity of Proteins in Relation to Allergy."

Changes in Status of Licensure.—The Massachusetts Board of Registration in Medicine on July 30 restored the license to practice medicine of Dr. Herbert N. duGerardell, East Boston. The Alabama State Board of Medical Examiners on August 6 revoked the license of Dr. James Franklin Johantgen, Talladega, Ala. (THE JOURNAL, July 21, p. 894). The California State Board of Medical Examiners recently took the following actions:

Dr. Ferdinand M. Ferguson, North Hollywood, license revoked.
Dr. Milton Francis Novotny, Long Beach, license revoked.
Dr. Courtland R. Sanborn, Oakland, license revoked.
Dr. Bim Smith, Los Angeles, license revoked.
Dr. Roy Reginald Lessing Sturges, Los Angeles, license revoked.

The New York State Board of Medical Examiners announces that the license of Dr. Abraham Gillman, New York, has been reinstated. The New York board also recently took the following actions:

Dr. Louis Stanley Barnett, New York, license revoced.
Dr. Anthony A. Flandina, New York, license revoked.
Dr. Samuel Shauer, Brooklyn, license suspended for six months.
Dr. Raymond J. Stockhammer, New York, license revoked.

The Michigan Board of Registration in Medicine on June 12 continued the suspension for one year of the license of Dr. Edward Harry Thomas, Detroit.

Health Council Urges "Pooling" of Resources.—Complete reorganization of the nation's 20,000 voluntary health agencies under a "strong, central agency" and the pooling of their fund-raising appeals on a countrywide basis were urged in a report made public September 16 by the National Health Council, an affiliation of eighteen health agencies. According to the New York *Times*, giving the voluntary agencies credit for much of the progress in public health, the report "Voluntary Health Agencies—An Interpretative Study," by Selskar M. Gunn, C.P.H., and Philip S. Platt, Ph.D., was compiled under a grant from the Rockefeller Foundation. It involved field work and research for three years and studied 568 agencies in sixty-five cities and twenty-nine states. It was stated that independent and uncoordinated attacks on specific diseases without central or unified planning often had resulted in confusing the public as to the goals of individual and public health. It was believed that the expansion of the National Health Council with a dynamic program and effective field services to function on request for member organizations throughout the country would remedy this situation. The report recommends that the present separate money-raising appeals be coordinated in a nationwide campaign, while the two agencies with specially effective money-raising devices, the tuberculosis and infantile paralysis groups, were urged to broaden their fields of interest and service. The overall plan put forward in the report advocated the preparation of a single combined health agency budget for every city, town and village, using a technic similar to that of the National War Fund.

LATIN AMERICA

Personal.—Col. George M. Powell, M. C., is the new assistant chief health officer of the Panama Canal, succeeding Col. Albert R. Dreisbach, M. C., whose reassignment in June terminated a seven month tour of duty on the Isthmus.——Dr. Gonzalo Estrada de la Riva, Havana, Cuba, has been appointed professor of allergy for an extension course at the University of Havana. According to the *Annals of Allergy* although these postgraduate courses have been held the past four years, this is the first time that allergy has been included.——Major Harold Jackson Davis, M. C., has been named chief of the field party in Uruguay of the Servicio Cooperativo Inter-Americano de Salud Publica.

Guggenheim Fellowships.—Included among recent Latin American fellowships awarded by the John Simon Guggenheim Memorial Foundation for advanced study in the United States are the following in medicine:

Dr. Jose Jesus Estable, subdirector, Institute for Experimental Medicine, Montevideo, Uruguay, studies in the field of experimental pharmacology, particularly the pharmacodynamics of emetine.

Dr. Alfonso Grana, investigator, Institute for Experimental Medicine, Montevideo, Uruguay, studies in the field of immunology. Dr. Grana will work at the Mayo Foundation, Rochester, Minn., with Hiram E. Essex, Ph.D.

Dr. Eduardo Aguirre Pequeno, director, Institute of Scientific Research, University of Nuevo Leon, Monterrey, N. L., Mexico, studies in the field of medical parasitology. He will work at Tulane University, New Orleans, with Ernest C. Faust.

CORRECTION

Hypoprothrombinemic Action of Quinine Sulfate.—In the article by Pirk and Engelberg in THE JOURNAL, August 11, references 8 and 9 as printed lead to a misrepresentation. The prothrombinopenic action of the salicylates was established by the workers cited under 8 and 9, but the protective effect of vitamin K against such hypoprothrombinemia has been demonstrated only by the authors cited under 8, with the exception of Rapoport, Wing and Guest.

Government Services

Leon Gardner to Head Medical Library

Col. Leon L. Gardner, formerly in charge of public relations and military intelligence at the Surgeon General's Office, has been appointed director of the Army Medical Library by Surg. Gen. Norman T. Kirk. Col. Harold W. Jones, director of the library, will be retired from active duty January 1. He is now on terminal leave. Colonel Jones reached the statutory retirement age in November 1941 but was requested by the Surgeon General to remain on wartime duty as librarian of the Army Medical Library. He held this position until a year ago, when he took over the newly created office of the director. Colonel Gardner, former director of the Bureau of Army Affairs of the American Red Cross, graduated at the top of his class at the Army Medical School in 1924 and again at the Medical Field Service School at Carlisle, Pa., in 1925. He was awarded the Hoff medal and the Skinner medal for his scholastic standing at each of those schools. In 1937 he qualified for service on the war department general staff by becoming a graduate of the Command and General Staff School at Fort Leavenworth, Kansas. Colonel Jones graduated at Harvard Medical School, Boston, in 1901. He was an honor graduate from the Army Medical School in 1906 and graduated from the Army Medical Field Service School in 1930.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Sept. 15, 1945.

Synthetic Estrogens in Malignant Disease

Prof. E. C. Dodds, who discovered the synthetic estrogen diethylstilbestrol, has reviewed the present status of synthetic estrogens in malignant disease in the *West London Medical Journal*. The fact that the female sex hormone responsible for secondary sexual characteristics can exist in three forms—estrone, estriol and estradiol—suggested to him the possibility of producing estrogens synthetically. These could be given by mouth. The first evidence that estrogens might influence the course of malignant disease was produced by Kaufmann in 1935, when he showed the beneficial effect of natural estrogens on kraurosis vulvae. This effect on a precancerous condition is perhaps the first indication of the value of these estrogens in malignant disease. But it is in carcinoma of the prostate that the greatest interest in these substances has recently been shown. Nearly fifty years ago castration for the relief of symptoms of carcinoma of the prostate was widely advocated. In many cases the primary growth and the metastases decreased. The operation naturally was objectionable, and interest in the subject died down until revived by the work of the American surgeon Charles Huggins. The British genito-urinary surgeon E. W. Riches stated at a joint meeting of the Pathological Society and the Biochemical Society that in his experience almost 95 per cent of the cases of carcinoma of the prostate respond to estrogens.

Professor Dodds considers that the mode of action of estrogens is obscure. The action may be on the pituitary by inhibiting the secretion of the gonadotropic hormone of the anterior lobe, it may be on the testes by suppressing the secretion of testosterone or it may be directly on the malignant growth itself. Of these hypotheses Dodds finds the first most attractive to the experimental biologist, but it is claimed that the effect of synthetic estrogen is superior to castration. This would indicate that suppression of the function of the anterior lobe of the pituitary is not the sole explanation. While the relief of symptoms occurs, cure cannot be claimed. But it must be remembered that diethylstilbestrol is the first substance ever produced that has an action of any sort on cancer when administered by mouth. The success in carcinoma of the prostate has led to the use of estrogens in every variety of carcinoma. In carcinoma of the breast beneficial effects have been obtained in only a small percentage of cases. Those recorded varied from slight relief to complete disappearance of the tumor and metastases. It is not known what type of case will respond or whether the effect is permanent.

Failure of Pertussis Vaccine

A. M. McFarlan, Elizabeth Topley and Mary Fisher in the *British Medical Journal*, August 18, report a trial of whooping cough virus carried out by the health department at Oxford under the direction of the Medical Research Council. Over 600 susceptible children from 6 months to 3 years of age attending welfare clinics and wartime day nurseries were divided into "inoculated" and "control" groups by methods designed to render the groups similar in every respect except for the inoculation. The inoculated children were given either two doses of pertussis vaccine at a four week interval or four doses at intervals of one, one and four weeks. The total dosage ranged from 40,000 to 100,000 million organisms, corresponding to an American dosage of 120,000 to 300,000 millions. Whooping cough occurred sporadically in Oxford during the succeeding eighteen months. No significant difference was observed in the incidence or severity of whooping cough between the inoculated and the control children. Of 327 inoculated children 12.5 per cent and of 305 control 14.1 per cent developed definite whooping cough. The conclusion is that the investigation lends no support to the view that pertussis vaccine is of value in the prophylaxis of whooping cough, and it is suggested that its use should be discontinued till some positive evidence of its value is obtained in further carefully controlled trials. The vaccine used was prepared by Burroughs Wellcome & Co. Since the possibility could not be excluded that this vaccine differed in some material way from vaccines prepared in the United States and Canada, it is proposed to carry out another investigation with an American vaccine. This is now being undertaken with a vaccine manufactured by Parke, Davis & Co. of Detroit according to the method of Dr. Sauer of Evanston, Ill.

ICELAND

(From Our Regular Correspondent)

REYKJAVIK, Sept. 14, 1945.

Mass Radiography in the Early Detection of Pulmonary Tuberculosis

Last winter the inhabitants of Reykjavik underwent a mass examination with miniature radiography to detect tuberculosis. These examinations were made by the staff of the tuberculosis center of the capital under personal direction of Dr. S. Sigurdsson, head of the nation's campaign against tuberculosis. A total of 43,196 people were examined, or 94.2 per cent of the inhabitants. As all children under 1 year of age were omitted, being otherwise controlled, practically everybody who was not prevented by total infirmity, sickness or absence showed up voluntarily at the examination. Actually 99.6 per cent of people who could reasonably be expected to present themselves were examined. The examinations lasted four months, starting in the middle of January and being finished on the 19th of May. Of the total number 986 were requested to return for further examination. The reason for these requests was either that the pictures were technically imperfect or they were suggestive of disease.

RESULTS

Of the total number 25, or 0.5 per thousand, were found to have contagious tuberculosis. These persons were of all ages and their disease advanced to various degrees. None of them were cognizant of the disease before. Most of these people were sent to sanatoriums without delay. Another 25, or 0.5 per thousand, were found to suffer from active tuberculosis without having bacilli in the sputum. A further group, 14, or 0.3 per thousand, had pulmonary tuberculosis in a stage which required strict supervision. The total number of tuberculous patients found amounts therefore to 64, or 1.4 per thousand of the examined. Only 8 of these patients were known to the center before.

When compared with the findings of a similar investigation in London recently (THE JOURNAL, July 14, p. 822) it will be seen that the number of affected individuals found is almost ten times lower in Reykjavik than in London, where between 1 and 1.5 per cent of fresh cases were discovered. The explanation for this difference may be the previous activity of the tuberculosis center in Reykjavik, which has been searching efficiently for tuberculosis in a small town where conditions are more evident than in the great metropolis.

In spite of the few fresh cases found, the result is considered satisfactory. After all, 25 carriers, each of whom may be expected to transmit the disease to a number of other people, are by no means a negligible danger to the community, which can better afford the public expense than the danger which the ignorance of infection implies.

BRAZIL

(From Our Regular Correspondent)

São Paulo, July 30, 1945.

The Transantral Route in Surgery of the Accessory Nasal Sinuses

Professor Ermiro Lima has pointed out the benefits of the transantral route in surgery of the accessory nasal sinuses. The ethmoid is the genetic and anatomic center of the paranasal cavities; as such it acts as an evolutive pathologic center and is thus responsible, by origin or maintenance, for acute and chronic infectious states of the other sinuses. Polysinusitis is usually found in inflammatory states of the facial sinuses; the ethmoidofrontomaxillary association is the most common and sphenoiditis comes next, also commonly associated with posterior ethmoiditis. The role of the mucosa as a continuous intercavity element in the propagation of the infection should not be forgotten. Even though the inflammations of the sphenoidal and maxillary sinuses might originate from rhinopharyngeal or dental infections, the concomitant or subsequent inflammations of the labyrinth of the ethmoid represent the main factor in the maintenance of sphenoiditis or maxillitis.

According to Professor Ermiro Lima's practice, certain procedures are now established in the transmaxillary method: (*a*) A small opening in the anterior wall of the maxillary sinus is sufficient to reach the intraethmoid and to maneuver inside it. (*b*) The complete destruction of the cells and other projections or bony laminas of the inferior angle of the ethmoid (between the lamina papyracea and the superior wall of the maxillary sinus) is indispensable. (*c*) The opening which allows the penetration in the ethmoid (in the superior internal angle of the maxillary sinus) should be made at the expense of the inferior ethmoid angle and never by sacrificing the nasal wall. (*d*) Penetrating the ethmoid, one should go toward the superior ethmoid angle (between the superior wall of the ethmoid and the orbital wall), where the roof of the ethmoid offers great resistance and where the cells with supraorbital prolongations can be found. (*e*) The route of the curet from the maxillary cavity to the upper wall of the ethmoid should describe from the bottom up the form of a Z; that is to say, to the upper wall of the sinus, to the inferior angle of the ethmoid, to the lamina papyracea, to the upper angle of the ethmoid and to the upper wall of the ethmoid. (*f*) The route of the curet anteroposteriorly should describe the shape of an elongated S; that is to say, (1) starting from the middle part of the ethmoid toward the front the curet bends toward the anterior wall of the front and outward, destroying the cells and the frontal bullae in the lateral region of the floor of the sinus; (2) starting again from the middle region of the ethmoid toward the sphenoid in the proximity of the anterior wall of the latter, it must turn inside as it penetrates the cavity. (*g*) The regions of the meatus medius and the concha, as important functional and morphologic elements, should be left intact. (*h*) The maxillary counteropening is necessary especially for postoperative drainage, leaving free the region of the meatus medius.

The transmaxillary method prevents altogether any morphologic and functional harm to the fossa nasalis. Furthermore, it avoids a mutilative operation which might have serious sensory and psychologic repercussions, which cannot be underestimated.

Psychiatric Hospital Care in São Paulo

São Paulo, with a population of more than 8 million, is putting into practice a plan of improvement of its psychiatric hospital service. The state government is building new hospitals and enlarging others in order to be able to transfer to good institutions patients who are not now receiving the proper psychiatric care. Dr. Edgard Pinto Cesar, director of the psychiatric service of the state of São Paulo, points out that the measures undertaken by the state will make it possible to give proper care to mental patients who otherwise would miss the specialized medical treatment during the most favorable phase of the illness. Data of the Juquiry Psychiatric State Hospital reveal that up to 75 per cent of the patients show decided improvement if treated in the early stages. Only 10 per cent of cases given treatment in the late stages show improvement. Dr. Pinto Cesar hopes that by next October it will be possible to hospitalize all mental cases in the state. Two new psychiatric hospitals and a new wing in the Juquiry Hospital will add 1,500 beds: 300 in Juquiry, 600 in the St. Theresa Hospital at Ribeirão Preto and 600 in the Pinel Hospital of the city of São Paulo. The plan provides for 1,000 more beds to become available in the course of 1946.

Personal

Dr. Orestes Rossetto, associate professor of physiology at the University of São Paulo, has been appointed professor ad interim to substitute for Dr. C. Moura Campos, who left for the United States to visit several medical institutions.

Dr. Edmundo de Vasconcellos, professor of surgery at the University of São Paulo, is now in the United States as a fellow of the Blaire House of Washington, D. C. Dr. Vasconcellos is the originator of special technic for the surgical treatment of cancer of the larynx and the esophagus and the author of several textbooks on surgery well known in Brazil. His book on modern methods of amputations has been published in English.

To Lieut. Col. Benjamin Gonçalves, assistant to the surgeon general of the Brazilian army, has been awarded the medal of Military Merit for special and valuable services.

Dr. Jorge S. Marsillac of the division of cancer of the National Department of Health and a practitioner of cancerology at Rio de Janeiro, has just arrived from the United States, where he was occupied for sixteen months as a fellow of the Memorial Hospital, New York.

Marriages

Charles Matthews Strateman, White Plains, N. Y., to Lieut. Ingrid Helen Leire of New York in Eibach, Germany, July 23.

Francis Rittenhouse Souder, Souderton, Pa., to Miss Marian Rita Parker of Pen Argyl in Philadelphia recently.

Leon Louis Berns, Philadelphia, to First Lieut. Mildred Vivian Groh of Wilkes-Barre, Pa., August 19.

Max Baumeister Jr., Norfolk, Va., to Miss Nancy Lydia Makovsky of Prince George, September 1.

John Edward Flynn, Tryon, N. C., to Miss Anne Frances Redmond of New York, September 1.

Leon Wallace to Miss Fern Barbara Wixen, both of Los Angeles, in New York, September 14.

Howard A. Spindler, Rochester, N. Y., to Miss Barbara Hayes Smith of Sheds, August 24.

Edward T. Edwards Jr. to Miss Mary Jane Decker, both of Vincennes, Ind., June 30.

Jay Durand, Seattle, to Mrs. Gertrude Huntley Green of Vancouver, B. C., recently.

Eli N. Bernstein, Detroit, to Lieut. Marjorie O. Boyd in Oxford, England, May 2.

Branch Craige Jr., El Paso, Texas, to Miss Jean McCracken of Joliet, Ill., August 18.

Milton Ernest Baker, Minneapolis, to Miss Ilene Godfrey of St. Paul, August 13.

Frank Stuart Ryerson, Detroit, to Miss Ann LeClear in Chicago, August 7.

Israel H. Lavine, Melrose, Wis., to Miss Harriet Rosen of Sparta recently.

Paul Thorpe Lowry, Price, Utah, to Miss Jeanette Kraemer recently.

Deaths

Smith Ely Jelliffe ✠ noted psychiatrist, died September 25 at his summer home near Huletts Landing, Lake George, N. Y. Dr. Jelliffe was born in New York Oct. 27, 1866. He graduated at the Columbia University College of Physicians and Surgeons, New York, in 1889, subsequently receiving his Ph.D. and A.M. degrees. He served an internship at St. Mary's Hospital, Brooklyn.

In 1896, while at the Binghamton State Hospital, he met Dr. William A. White and thus began a long professional friendship. In addition to conducting a large private practice, Dr. Jelliffe was clinical professor of mental diseases at Fordham University from 1907 to 1912; instructor in materia medica and therapeutics from 1903 to 1907 and professor of pharmacognosy and technical microscopy from 1897 to 1907 at the Columbia University College of Pharmacy, and adjunct professor of diseases of the mental and nervous system at the Post-Graduate Medical School and Hospital from 1911 to 1917. He was visiting neurologist at the City Hospital from 1903 to 1913 and at the time of his death was consulting neurologist at the Manhattan State and Kings Park hospitals.

He held membership in numerous societies, including the American Psychiatric Association, Philadelphia Neurological Society and the New York Academy of Medicine. He had been vice president and president of the American Neurological Association; he also had been president of the New York Neurological Society, American Psychopathological Association and the American Psycho-Analytical Society. He was an Affiliate Fellow of the American Medical Association and a specialist certified by the American Board of Psychiatry and Neurology, Inc. In addition he was a member of many foreign groups.

A man of prodigious energy, Dr. Jelliffe's career included many activities. He was a prolific writer of medical articles and the author of a number of textbooks. In 1938 a celebration was held to observe his thirty-fifth anniversary as editor of the *Journal of Nervous and Mental Disease,* a position which he held until recently. From 1913 until recently he held a similar position with the *Psychoanalytic Review.* He and Dr. White formerly edited the Nervous and Mental Monograph Series. In 1941 Dr. Jelliffe gave his library of fifteen thousand volumes and more than twenty-five thousand reprints on nervous and mental diseases to the Neuro-Psychiatric Institute of Hartford Retreat, Hartford. The collection was said to be one of the most complete in the world. He was editor of the *Medical News* in New York from 1900 to 1905 and associate editor of the *New York Medical Journal* from 1905 to 1909.

His versatility, his genius as a writer and teacher and his dynamic character combined to give him a position of leadership in each of the many fields to which he devoted his efforts.

Isidore Friesner ✠ Katonah, N. Y.; Gross Medical College, Denver, 1901; served as president and secretary of the American Otological Society; member of the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society; fellow of the American College of Surgeons; joined the medical staff of the Mount Sinai Hospital, New York, in 1920 and became otologist to the hospital a year later; president of the medical board from 1927 to 1938; under his direction of the department of otology, the training of residents in this field was started at the hospital; one of the first to recognize the importance of microscopic studies in diseases of the ear and responsible for the establishment at the hospital of a histopathologic department and laboratory facilities in connection with otology in 1928; on April 27, 1944 a portrait of him was presented to the hospital in commemoration of his seventieth birthday and as a tribute to his twenty-four years of service at Mount Sinai and to his pioneering work in establishing the relation of otology to general medicine; associated with the Bronx and Beth David hospitals in New York, Beth Moses and Methodist hospitals in Brooklyn, St. Joseph's Hospital in Far Rockaway and the Flushing (N. Y.) Hospital; specialist certified by the American Board of Otolaryngology; co-author of "Labyrinth" and "Cerebellar Abscess"; died September 8, aged 71, of coronary thrombosis.

William Avery Groat ✠ Syracuse, N. Y.; Syracuse University College of Medicine, 1900; member of the House of Delegates of the American Medical Association in 1939, 1940 and 1942; member of the American Association of Immunologists, American Association for the Study of Goiter, American Society of Clinical Pathologists and the Association for the Study of Internal Secretions; past president of the Medical Society of the State of New York and its fifth district branch; at one time president of the Syracuse Academy of Medicine; fellow of the American College of Physicians; specialist certified by the American Board of Internal Medicine; served as professor of clinical pathology and medical jurisprudence at his alma mater, where he had been a trustee of the university and a member of its advisory board on athletics; served during World War I; lieutenant colonel, Medical Officers Reserve Corps, at the time of his death; had been associated with the City Hospital, Syracuse Memorial Hospital, St. Joseph Hospital and Hospital of the Good Shepherd; served as chairman of the advisory committee of the city health department; member of the management committee of the *New York State Journal of Medicine;* died September 9, aged 68, of chronic myocarditis and cerebral arteriosclerosis.

Charles Gilmore Kerley ✠ New York; University of the City of New York Medical Department, 1888; for many years professor of pediatrics and later emeritus at the New York Polyclinic Medical School and Hospital; specialist certified by the American Board of Pediatrics, Inc.; member and past president of the American Pediatric Society and the New York County Medical Society; fellow of the New York Academy of Medicine; member of the American Academy of Pediatrics; consulting pediatrician to Babies' Hospital and Hospital for Joint Diseases in New York, St. John's Hospital in Yonkers, Tarrytown (N. Y.) Hospital, Methodist Hospital in Brooklyn, Greenwich (Conn.) Hospital, Vassar Hospital, Pougkeepsie, N. Y., Fitkin Memorial Hospital, Neptune, N. J., Wassaic (N. Y.) State School, Mary McClellan Hospital, Cambridge, N. Y., and the Sharon (Conn.) Hospital; author of "Short Talks with Young Mothers," 1902, 1910, 1916 and 1925; "Practice of Pediatrics," 1914, 1918 and 1924; "Treatment of Diseases of Children," 1907 and 1909; "What Every Mother Should Know," 1915; "Digestive Disturbances in Infants and Children," 1924, and a novel, "Where is My Mother," in 1933; died September 7, aged 82, of heart disease.

Kenneth Clark Strong, Los Angeles; Stanford University School of Medicine, San Francisco, 1932; member of the American Medical Association and the American Society of Clinical Pathologists; diplomate of the National Board of Medical Examiners; specialist certified by the American Board of Pathology, Inc.; interned at the San Francisco Hospital; served as resident physician at the Presbyterian Hospital and Sloane Hospital for Women in New York; at one time on the faculties of Columbia University in New York and the Long Island College of Medicine in Brooklyn; served as director of laboratories at St. Francis Hospital in San Francisco and as consulting pathologist for the Veterans Administration facility; formerly affiliated with the division of laboratories and research, New York State Department of Health in Albany; began active duty as a major in the medical corps, Army of the United States, on Sept. 15, 1942 and service terminated January 1944 for physical disqualification; died July 3, aged 41, of heart disease.

George Rubin, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1898; member of the American Medical Association; formerly fellow in pathology at Rush Medical College, University of Chicago; served as medicolegal counsel for the corporation counsel's office in the city of Chicago; attending physician on the medical staff of the Jewish Old People's Home, North Chicago Hospital, Michael Reese Dispensary, Mount Sinai Hospital and the Chicago Tuberculosis Institute; a captain in the medical corps of the U. S. Army during World War I; captain, medical reserve corps, U. S. Army, not on active duty; delegate to the International Medical Congress in Paris in 1900; died in the Michael Reese Hospital July 15, aged 68, of carcinoma of the liver.

George Edwin McPherson ✠ Amherst, Mass.; Baltimore Medical College, 1904; specialist certified by the American Board of Psychiatry and Neurology, Inc.; member of the American Psychiatric Association and the American Association on Mental Deficiency; member and formerly vice president of the New England Society of Psychiatry; served during World War I; lieutenant colonel, medical reserve corps, U. S. Army, not on active duty; assistant superintendent of the Foxboro State Hospital, Foxboro, 1914-1915 and the Medfield State Hospital in Medfield from 1916 to 1921; assistant executive officer, Boston Psychopathic Hospital, 1915-1916; for many years superintendent of the Belchertown State Hospital in Belchertown; died June 16, aged 68, of coronary thrombosis.

Elizabeth Leiper Martin, Blairstown, N. J.; Western Pennsylvania Medical College, Pittsburgh, 1902; member of the American Psychiatric Association; at one time physician on the staff of the Margaret Morrison College of the Carnegie

Institute of Technology and during the same period had charge of women at the University of Pittsburgh; interned at the Western Pennsylvania Hospital in Pittsburgh; served as resident physician at the Friends Hospital in Philadelphia and later took a similar position at Butler Hospital in Providence, R. I.; served as head of the mental hygiene service at Wellesley College and Pembroke College in Brown University; died in the Newton Memorial Hospital, Newton, September 8, aged 73, of generalized arteriosclerosis, and myocardial degeneration.

Toliver Moore McDuffee ✠ Manatee, Fla.; University of Tennessee Medical Department, Nashville, 1899; past president of the Florida Medical Association, the Florida Railway Surgeons Association and the Manatee County Medical Society; served as the medical member of the county draft board during World War I; twice mayor of Manatee; from 1917 to 1925 chairman of the county school board, which about a year ago named the Manatee Junior High School the McDuffee School as a mark of honor for his public services; for many years surgeon for the Seaboard Air Line Railway; county physician; died June 15, aged 79, of Parkinson's disease.

Andrew Benjamin Albritton, Wildwood, Fla.; University of Georgia Medical Department, Augusta, 1912; member of the American Medical Association; died May 3, aged 62, of cardiorenal disease and diabetes mellitus.

Harry Lewis Aldrich ✠ Caney, Kan.; Hering Medical College, Chicago, 1902; vice president, past president and for many years member of the state board of health; in 1915 state representative; for many years health officer; served as councilman and mayor of Caney; in recognition of his many years of service as a member of the state board of health was presented with a plaque by the board; died in the Washington County Memorial Hospital, Bartlesville, Okla., June 29, aged 76, of myocarditis.

Chester Arthur Ayres, Lorimor, Iowa; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1904; member of the American Medical Association; served as secretary of the Polk County Medical Society and the Seventh District Medical Society; at one time on the faculty of the Drake University College of Medicine in Des Moines; died in Centerville June 29, aged 64, of coronary thrombosis.

John Peter Boroszewski ✠ Buffalo; University of Buffalo School of Medicine, 1926; died in the Buffalo General Hospital June 22, aged 44, of toxic hepatitis.

Charles Alonzo Brown, Plymouth, Ind.; Homeopathic Medical College of Missouri, St. Louis, 1890; died June 18, aged 83, of coronary occlusion.

John F. Burkhalter, Claxton, Ga.; University of Georgia Medical Department, Augusta, 1911; served during World War I; died in Savannah May 6, aged 59, of coronary thrombosis.

Manning Skinner Daniels, Pomeroy, Ohio; Western Reserve University School of Medicine, Cleveland, 1925; member of the American Medical Association; died June 13, aged 46, of coronary thrombosis.

Charles G. Elmore, Omaha; University of Tennessee Medical Department, Nashville, 1888; for many years surgeon for the Chicago and Northwestern Railroad; died in St. Joseph Hospital May 31, aged 87, of prostatic hypertrophy.

Alice Lucretia Ernst, Clifton Springs, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1888; formerly a missionary in India; died June 20, aged 84, of carcinoma of the gallbladder.

William Floyd Etter, Rogers, Texas; College of Physicians and Surgeons, Baltimore, 1892; member of the American Medical Association; local surgeon for the Santa Fe Railroad; city health officer of Rogers; died May 14, aged 77, of pneumonia following a cerebral hemorrhage.

Alfred Abraham Euster ✠ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1924; served on the staffs of the Jewish, Nazareth and Frankford hospitals; died in the Dufur Hospital, Ambler, May 20, aged 45.

Loren Ervin Grimes, Zanesville, Ohio; Starling-Ohio Medical College, Columbus, 1914; member of the American Medical Association; served as secretary-treasurer and vice president of the Muskingum County Academy of Medicine; on the staffs of the Good Samaritan and Bethesda hospitals; served as county coroner; died June 7, aged 57, of heart disease.

Daniel George Hersh, Lititz, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1886; died in the United Zion Home, Warwick Township, May 20, aged 79, of general arteriosclerosis.

Henry William Heuermann ✠ St. Louis; St. Louis University School of Medicine, 1904; on the staffs of the Lutheran and Alexian Brothers' hospitals; died June 29, aged 64, of cerebral hemorrhage.

William T. Hinton, Dacula, Ga.; Atlanta Medical College, 1894; member of the American Medical Association; died in the Emory University Hospital, Atlanta, May 10, aged 75, of arteriosclerosis.

William M. Holmes, Marionville, Mo.; St. Louis College of Physicians and Surgeons, 1893; member of the American Medical Association; died in Burbank, Calif., June 28, aged 82, of medullary depression, toxemia due to thrombus of abdominal aortic infarction and arteriosclerosis.

Claude Perry Jones, Detroit; Harvard Medical School, Boston, 1893; Boston University School of Medicine, 1905; served during World War I; formerly superintendent of the Ford Republic School for Boys in Farmington, Mich.; died in the Grace Hospital June 27, aged 75, of bronchopneumonia.

John Scott Kelso, Avalon, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1896; school physician; affiliated with the Suburban General Hospital in Bellevue, of which he had been one of the founders; died June 26, aged 79, of coronary occlusion.

Horace Louis Leiter, Cazenovia, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1903; member of the American Urological Association; for many years on the staff of the University Hospital in Syracuse; died in Boston June 21, aged 67, of carcinoma of the cecum with metastases.

Lester Winslow Lord, West Ossipee, N. H.; Baltimore Medical College, 1897; veteran of the Spanish-American War and World War I; died in Winter Park, Fla., June 23, aged 70, of cerebral hemorrhage and hypertension.

William Lyon Lowrie ✠ Tyrone, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1883; served on the staffs of the Altoona and Mercy hospitals in Altoona and the Philipsburg (Pa.) State Hospital; died May 21, aged 85, of arteriosclerosis.

William Read Martin, Charlotte C. H., Va.; University College of Medicine, Richmond, 1907; member of the American Medical Association; past president of the South Piedmont Medical Society; past president and secretary of the Charlotte County Medical Society; county health officer; since 1937 president of the Charlotte County Library Board; died in the University Hospital, Charlottesville, June 24, aged 62.

Irving E. Ozanne ✠ Neenah, Wis.; Dunham Medical College, Chicago, 1899; on the staff of the Theda Clark Memorial Hospital; died in the Wisconsin General Hospital, Madison, July 12, aged 79, of ruptured diverticulum.

William Harrison Powell, Sulphur, Okla.; Baylor University College of Medicine, Dallas, 1905; city physician of Sulphur for many years; died June 1, aged 72, of carcinoma of the gallbladder and liver.

John Edward Powers, Wilton, N. H.; University of Vermont College of Medicine, Burlington, 1922; member of the American Medical Association; served during World War I; on the staffs of St. Joseph's Hospital and the Memorial Hospital in Nashua, where he died July 16, aged 53, of cerebral hemorrhage.

Leighton P. Ravenscroft, Winfield, Kan. (licensed in Kansas in 1901); member of the American Medical Association; mayor of Winfield six times; died in the Newton Memorial Hospital June 12, aged 84, of chronic myocarditis.

David Robert Rodger, New York; College of Physicians and Surgeons, medical department of Columbia College, New York, 1888; member of the American Medical Association; served on the staffs of the Jamaica (N. Y.) Hospital and the Roosevelt Hospital; died July 4, aged 90, of generalized arteriosclerosis and gangrene of the legs.

Andrew William Marks Row, Marine City, Mich.; Trinity Medical College, Toronto, Ont., Canada, 1896; died July 1, aged 69, of acute dilatation of the heart and asthma.

Rudolph George Schroth, Chicago; National Medical University, Chicago, 1904; member of the American Medical Association; died July 17, aged 68, of carcinoma of the stomach.

Walter Wesley Sessions ✠ Sumner, Ga.; Atlanta School of Medicine, 1911; honorary member of the Medical Association of Georgia; died May 21, aged 69, of chronic nephritis.

Jesse Shoup ✠ Washington, D. C.; Jefferson Medical College of Philadelphia, 1891; an associate of the American College of Physicians; served on the staffs of the Garfield and Doctors hospitals; died July 21, aged 80, of heart disease.

Samuel Gordon Sloan, Elmore, Ohio; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1924; served with the Canadian Expeditionary Forces during World War I; interned at St. Vincent's Hospital in Toledo; died July 3, aged 47, of cerebral hemorrhage.

Martin Luther Sowers, Far Rockaway, N. Y.; University College of Medicine, Richmond, 1913; specialist certified by the American Board of Otolaryngology; a captain in the medical corps of the U. S. Army overseas during World War I; member of the American Medical Association; served on the staffs of the New York Eye and Ear Infirmary, Neurological Institute and the Manhattan Eye, Ear and Throat Hospital, all of New York, and St. Joseph Hospital; drowned while swimming at Long Beach, July 27, aged 53.

Henry Steible, Hammond, Ind.; Jenner Medical College, Chicago, 1900; for many years police surgeon for the police department in Chicago, where he had been on the staff of the Alexian Brothers Hospital; died July 14, aged 69, of acute cardiac decompensation.

Robert Benjamin Stevenson, Columbus, Ohio; Ohio State University College of Medicine, Columbus, 1912; member of the American Medical Association; a captain in the medical corps and chief of the laboratory staff at an Army hospital in Hot Springs, N. C., during World War I; on the staffs of the White Cross and Mercy hospitals; died in the Mount Carmel Hospital July 13, aged 55, of coronary occlusion.

William H. Swain ⊕ Martin, Ga.; Gate City Medical College, Dallas, Texas, 1907; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1914; commissioner of Stephens County for many years; on the staff of the Stephens County Hospital, Toccoa, where he died May 20, aged 76.

Frank Curtis Titus, Toledo, Ohio; Illinois Medical College, Chicago, 1903; member of the Toledo Academy of Medicine, the American Urological Association and the American Medical Association; served during World War I; died July 14, aged 67, of coronary occlusion.

Mary A. Huban Traiser, Boston; Middlesex College of Medicine and Surgery, Cambridge, Mass., 1927; member of the staff of the Carney Hospital; died June 19, aged 65, of heart disease and chronic myocarditis.

William Wesley Ward ⊕ Alexander, Ark.; University of Arkansas School of Medicine, Little Rock, 1902; held various offices in the Saline County Medical Society; served during World War I; school director and formerly mayor; died June 18, aged 75, of heart disease caused by asthma.

Arthur Weaver White ⊕ Oklahoma City; Rush Medical College, Chicago, 1902; professor emeritus of clinical medicine at the University of Oklahoma School of Medicine; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; served during World War I; member of staff, St. Anthony Hospital; chief of clinical medicine and consultant in gastroenterology, University Associated Hospitals; died June 11, aged 68, of coronary occlusion.

Elizabeth Wiltshire Wright ⊕ Mount Vernon, N. Y.; Laura Memorial Woman's Medical College, Cincinnati, 1903; Boston University School of Medicine, 1909; died in Hawthorne, July 3, aged 69, of carcinoma of the breast.

Charles Henry Zander, Oakland, Calif.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1909; member of the American Medical Association; died in the Providence Hospital June 15, aged 65, of myocardial infarction and arteriosclerosis.

MAJOR JOHN E. ADAMS
M. C., A. U. S., 1911-1944

CAPT. JULIUS A. HENE
M. C., A. U. S., 1908-1944

CAPT. WILLIAM D. DAVIS
M. C., A. U. S., 1913-1944

KILLED IN ACTION

John Edwin Adams, Los Angeles; University of Virginia Department of Medicine, Charlottesville, 1936; interned at the Virginia Mason Hospital in Seattle; served a residency at the University of Virginia Hospital, Charlottesville, the Children's Hospital and Los Angeles County Hospital; began active duty as a first lieutenant in the medical corps, Army of the United States, on Aug. 1, 1941; assigned to Hoff General Hospital in Santa Barbara; promoted to major; killed in action in the North African area Jan. 24, 1944, aged 32.

Julius A. Hene, New York; Medizinische Fakultät der Universität Wien, Vienna, Austria, 1936; interned at the Harlem Hospital; began active duty as a first lieutenant in the medical corps, Army of the United States, on July 1, 1942; assigned to 10th Medical Battalion, Camp Hale, Pando, Colo.; later promoted to captain; killed in action in Stalag, Germany, Dec. 23, 1944, as the result of an air attack, aged 36.

William Dewey Davis, Pomona, Calif.; University of Chicago, the School of Medicine, 1939; member of the American Medical Association; interned at the Los Angeles County Hospital in Los Angeles; diplomate of the National Board of Medical Examiners; began active duty as a first lieutenant in the medical corps, Army of the United States, on May 15, 1942; later promoted to captain; killed in action in the Southwest Pacific area Aug. 2, 1944, aged 30.

Correspondence

UNCONTROLLED USE OF ORAL AMEBICIDES

To the Editor:—The article in THE JOURNAL, August 11, by Silverman and Leslie on the "Toxic Effects of Diodoquin" serves as a timely warning against what I believe is an increasing tendency to the somewhat careless and uncontrolled use of the oral amebicides. During the past year I have seen or heard of several amebiasis patients who, because of recurrent attacks of diarrhea or dysentery, have been taking repeated three week courses of an orally administered amebicide. Rest intervals between treatments have seldom been more than a week or two because of the recurrence of symptoms. Last month I saw 1 of these patients who sought relief mainly for an extensive dermatitis covering the entire body and diagnosed by several competent dermatologists as a fungous infection probably contracted in India five years ago. Three years ago, in Iran, an attack of dysentery was diagnosed as being due to Endameba histolytica. Since then he has had repeated attacks of dysentery and, for the past year on the recommendation of several physicians, has been taking diodoquin almost continuously. His dermatitis had been getting much worse during the past four months. I stopped the diodoquin and substituted carbarsone plus vitamin therapy, and within three weeks the dermatitis had greatly lessened and the dysentery was relieved.

Many practitioners are now, or soon will be, for the first time faced with the problem of treating amebiasis. Undoubtedly the incidence of amebiasis in this country will be greatly increased with the return of troops and civilian workers from the tropics. While many of these individuals infested with E. histolytica have been properly diagnosed and treated, some will remain uncured and suffer relapses. These and others as yet undiagnosed, who may develop symptoms months or years after their original infection, will serve as carriers for the spread of amebiasis. Most authorities recognize the seriousness of this type of disease and agree that amebiasis is characterized by (*a*) difficulty in eradication of the ameba, (*b*) rapid tendency of E. histolytica to become "drug fast" to a specific amebicide, (*c*) chronicity of symptoms with frequent relapses of diarrhea or dysentery, (*d*) a large number of individuals who do not have diarrhea or dysentery but suffer from vague gastrointestinal symptoms and (*e*) the asymptomatic carrier of E. histolytica. The complete eradication of the ameba from the human host is difficult and requires well controlled therapy and a careful follow-up study of the stools over a suitable period of time to determine cure.

The physician who undertakes to treat amebiasis must, first of all, be sure of the diagnosis. Too many physicians rely on their own ability to examine the patient's stool and too often imagine that cysts of E. histolytica are found when actually they see plant cells, yeasts or, rarely, nonpathogenic cysts. Also few clinical laboratory technicians should be entrusted with the responsibility of diagnosing stool specimens for E. histolytica. I recall 2 cases of chronic diarrhea diagnosed by a clinical laboratory as amebiasis, which were accordingly treated for this for several months before the correct diagnosis of cancer of the bowel was made. On the other hand, amebic infection should not be ruled out until several properly obtained and competently examined stools have been checked.

Several effective amebicides are now available. The Pharmacopeia lists chiniofon (yatren), carbarsone and emetine hydrochloride and N. N. R. recognizes vioform, diodoquin and acetarsone (stovarsol) as amebicides. Since all these drugs are potentially toxic and capable of producing untoward reactions, their use should be governed by certain definite rules: (*a*) treatment should be limited to a short period of from ten to fourteen days; (*b*) a rest period of at least two or three weeks should be followed and the stools found positive for the amebas before another course of treatment with one of the oral amebicides is started; (*c*) the iodine containing compounds chiniofon, vioform and diodoquin and the arsenicals carbarsone and acetarsone are contraindicated in patients showing or suspected of having liver damage or known to have drug sensitivity; (*d*) none of these drugs should be used empirically for the treatment of a nonamebic diarrhea; (*e*) emetine hydrochloride should not be used in weakened individuals or those with heart damage, because this drug has a definite toxic action on the heart and neuromuscular system. Of these drugs, emetine has been used the longest because it effectively stops the dysentery in a day or two. However, because of its toxic effects, many clinicians now hesitate to use it. They prefer to tide over the acutely ill patient suffering from a rapidly dehydrating and exhausting dysentery by the judicious use of laudanum or paregoric until the orally administered amebicides have had time to accomplish relief of symptoms. In such cases, in addition to correcting the loss of fluids from the body, prompt attention should be given to treating the avitaminosis which is usually present.

With respect to the toxicity of diodoquin and the iodine containing amebicides, Silverman and Leslie apparently have overlooked our recent articles on this subject (David, N. A.; Phatak, N. M., and Zener, F. B.: *J. Pharmacol. & Exper. Therap.* **72**:11 [May] 1941; *Am. J. Trop. Med.* **24**:29 [Jan.] 1944). In this work we were unable to establish a definite LD_{50} for diodoquin in guinea pigs and kittens, which we attributed to the variable absorption of the drug. However, the fact that some of the treated animals died from each of the various orally administered doses used (from 50 mg. per kilogram to 2 Gm. per kilogram) indicated that sufficient absorption took place to kill the animal. Further proof that it is possible to absorb appreciable amounts of iodine when diodoquin is orally administered was shown by studies of the blood iodine level in man before and after treatment with a modified course of diodoquin. In 10 persons the normal blood iodine ranged from 5.3 to 18.02 micrograms per hundred cubic centimeters and, following diodoquin administration of one tablet three times daily for ten days, increases in the blood iodine up to 45.6 to 437.25 micrograms per hundred cubic centimeters were noted. Four of these patients complained of the onset of pruritus ani or anal irritation soon after the start of treatment, 2 of gastric "discomfort" and 1 of an increased sense of skin warmth. About the same results and symptoms were noted in another group of 9 students given the usual ten day course of vioform, although individual variations in the increase of blood iodine levels were less. It should be noted that we administered diodoquin in doses of one tablet only three times daily for ten days rather than in the recommended therapeutic dosage of from seven to ten tablets daily for fifteen to twenty days. This larger dosage and prolongation of treatment would undoubtedly increase the degree of iodine absorption and the likelihood of toxic symptoms. I feel that if a drug is an effective amebicide it should accomplish its purpose within a period of ten days. Since we found that iodine absorption does occur after diodoquin as well as vioform and chiniofon (unpublished results) and that these drugs can kill animals at certain dosages and cause untoward symptoms in man, the physician should prescribe these compounds with some respect.

NORMAN A. DAVID, M.D., Portland, Ore.
Professor of Pharmacology, University of Oregon Medical School.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1935 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama State Medical Assn. Journal, Montgomery

15:1-32 (July) 1945

Breast Feeding. Ruth R. Berrey.—p. 1.
Epiploic Appendage: Its Role in Production of Acute Abdominal Symptoms. W. C. Simpson.—p. 3.
Effects of Arteriovenous Fistula on Cardiovascular System: Report of Case of Arteriovenous Fistula of Common Carotid Artery and Internal Jugular Vein. D. C. Donald and B. Meadows.—p. 5.

15:33-88 (Aug.) 1945

Pregnancy Complicating Chronic Conditions. O. R. Grimes.—p. 33.
General Care of Infant During First Year. J. H. Baumhauer.—p. 38.
Intraocular Steel Particles: Report of 5 Successive Cases. G. Stayer. —p. 41.

American Journal of Clinical Pathology, Baltimore

15:215-262 (June) 1945

Portal Cirrhosis of Liver: Review of 250 Necropsies with References to Sex Differences. D. M. Spain.—p. 215.
Measurement of Serum Total Base. F. W. Sunderman.—p. 219.
*Gelatin Solution as Plasma Substitute. F. Steigmann, K. A. Meyer, D. D. Kozoll, B. W. Volk and H. Popper.—p. 223.
Histogenesis of Compound Granular Corpuscles in Response to Cerebral Trauma: Experimental Study. W. B. Dublin.—p. 228.
Diabetes in Rat Caused by Introduction of Alloxan into Alimentary Canal. J. A. Rubin and K. Yardumian.—p. 230.
*Inhibitive Effect of Gastric Lavage on Tubercle Bacilli: Preliminary Report. V. M. Schwarting.—p. 234.
Fatty Tissues: Normal Anatomy and Changes in Obesity (Review). S. M. Rabson.—p. 240.
Leukemia Complicated by Cancer: Report of Case. M. Berk and E. R. Movitt.—p. 246.
Sudden Death from Complete Rupture of Descending Thoracic Aorta with True Fusiform Aneurysm, Caused by Medionecrosis Cystica. G. Strassmann and W. M. Konikov.—p. 250.

Gelatin Solution as Plasma Substitute.—Steigmann and his collaborators studied the effects observed on hospital controls from administering gelatin solutions in different strengths and different admixtures regarding (1) hemodilution following one or more infusions, (2) changes in the blood, (3) liver and kidney function and (4) toxic reactions. The gelatin used in this study was supplied ready for use in solutions of 5 per cent and 2.5 per cent gelatin in isotonic solution of sodium chloride, 5 per cent gelatin in dextrose and 5 per cent gelatin in isotonic solution of sodium chloride reinforced with tryptophan, tyrosine, methionine and leucine. The gelatin solution was prepared from calcium gelatinate. The solutions were used in 82 hospital controls, who received 169 liters of gelatin solution during 130 infusions, each patient receiving from 1 to 10 liters. All infusions were given intravenously. Amounts from 2,000 to 10,000 cc. were tolerated without ill effects. Thrombosis of and pain in veins into which gelatin is repeatedly given were not uncommon. Some reactions were obviated by boiling all rubber tubing after infusion in alkaline solution. No untoward results following the administration of gelatin solution were observed in regard to the liver, kidney or hemopoietic system except for an increase in the sedimentation rate of red blood cells. The fact that gelatin is nonantigenic makes this substance promising as a plasma substitute.

Inhibitive Effect of Gastric Lavage on Tubercle Bacilli.—Schwarting reports studies that were carried out at Glen Lake Sanatorium, Oak Terrace, Minn. It was found that substances are present in many gastric lavages which can inhibit partially or completely the growth of tubercle bacilli. Incubation at 37 C. permits the inhibitory substances to act most readily, but ice box temperatures do no prevent their action. False negative cultures and failure to infect guinea pigs may result if gastric contents are not treated and inoculated immediately, especially in those specimens which contain only a few bacilli. The practice of accumulating several specimens of gastric contents over a period of days and pooling the combined specimens should be discouraged, because results have shown that the time lapse between receipt and treatment for culture may offset any advantage gained by the additional specimens.

American Journal of Medical Sciences, Philadelphia

210:1-134 (July) 1945

*Penicillin in Treatment of Pneumococcal, Meningococcal, Streptococcal and Staphylococcal Meningitis. W. L. White, F. D. Murphy, J. S. Lockwood and H. F. Flippin.—p. 1.
Infective Hepatitis, with Special Reference to Prognosis. J. B. Rennie. —p. 18.
*Oral Administration to Volunteers of Feces from Patients with Homologous Serum Hepatitis and Infectious (Epidemic) Hepatitis. J. R. Neefe, J. Stokes Jr. and J. G. Reinhold.—p. 29.
Lymph Nodes in Leishmaniasis: Report of 2 Cases. D. M. Angevine, T. R. Hamilton, F. G. Wallace and J. B. Hazard.—p. 33.
*Mite or Scrub Typhus: Clinical and Laboratory Study of 64 Cases. T. E. Machella and J. S. Forrester.—p. 38.
Toxicity of Streptothricin. G. Rake, Dorothy Hamre, F. Kavanagh, W. L. Koerber and R. Donovick.—p. 61.
Klebsiella Pneumoniae Bacteremia Successfully Treated with Penicillin. J. L. Kobacker and G. B. Mehlin.—p. 66.
Rickets in Iceland. N. Dungal.—p. 70.
Hemorrhagic Telangiectasia with Pulmonary Artery Aneurysm: Case Report. R. W. Rundles.—p. 76.
Tiselius Electrophoresis Studies of Plasma Proteins in Addison's Disease. E. P. McCullagh and L. A. Lewis.—p. 81.
Incidence, Causes and Intermittence of Proteinuria in Young Men. I. J. Wolman.—p. 86.
Electrocardiographic Changes Associated with Lesions in Deeper Layers of Myocardium: Experimental Study. R. D. Pruitt, A. R. Barnes and H. E. Essex.—p. 100.

Penicillin in Meningitis.—This study by White and his collaborators of 71 patients with acute meningitis treated with penicillin, of whom 50 had pneumococcic, 12 meningococcic, 5 streptococcic and 4 staphylococcic meningitis, was made possible by the cooperation of a large number of physicians in eighteen hospitals in the Philadelphia area. Penicillin was often effective in pneumococcic, meningococcic and streptococcic meningitis after adequate sulfonamide therapy had failed to produce the desired response. In pneumococcic meningitis the presence of subcranial foci and advanced age were cardinal factors in influencing the mortality rate. Intrathecal penicillin therapy does not appear harmful. Intracisternal injection seems to be the most effective route of intrathecal administration. Although penicillin administered by the systemic route alone may have a curative effect in selected cases, it seems preferable to supplement systemic administration with intrathecal injections of the drug by the cisternal route. The superiority of penicillin over other forms of chemotherapy is most clearly demonstrated in staphylococcic meningitis. It is likely that best results will be obtained through the use of a combination of penicillin and sulfonamides in systemic therapy, and penicillin intrathecally.

Transmission Experiments with Feces in Infectious Hepatitis.—Transmission experiments in human volunteers have shown that the causative agent of infectious (epidemic) hepatitis may be present in the feces of persons with the active disease. Neefe and his associates administered orally pooled specimens of feces from 6 subjects during various stages of homologous serum hepatitis to 19 healthy volunteers. None of these showed evidence of hepatitis during a four to six month period of observation, suggesting that the causative agent either was not present in the feces or was not active when administered by the gastrointestinal route. Pooled specimens of feces from patients with infectious (epidemic) hepatitis were administered orally to healthy volunteers. Hepatitis occurred within twenty-six days in 6 of 12 subjects, confirming the observation of others that the causative agent is present in the feces of patients with the active disease. Pooled specimens of feces obtained from 2 volunteers during the preicteric and icteric stages of experimentally produced infectious (epidemic) hepatitis were administered orally to 7 healthy volunteers. One developed the disease after twenty-six days, indicating that the agent was present in feces obtained during the active disease. Pooled specimens of feces from the same 2 volunteers three

weeks after the disappearance of jaundice also were administered orally to 7 healthy volunteers. None developed hepatitis during a four month period of observation, suggesting that the agent was not present in the feces three weeks after the disappearance of icterus.

Tsutsugamushi Disease.—Machella and Forrester present clinical and laboratory data on a series of 24 American and 40 Chinese patients who had a disease which appeared to be identical with tsutsugamushi or Japanese river fever, also called mite or "scrub" typhus. The exact incubation period was rarely determined, all of the patients admitted having been in the jungle during the several weeks prior to the onset of the illness. A typical primary ulcer was present in 43 of 64 cases. The initial lesion began as a red painless macule, which in a few days became papular. A small excoriation then appeared on the dome of the papule, which soon became deeper and filled with a black eschar. The most striking feature of the patient's general appearance was apathy. The average duration of fever was 17.4 days. The blood pressure was usually low during the course of the febrile period and then gradually came up to normal during the period of convalescence. A typical rash was noted in 33 of 63 cases. The spleen was palpable in 35 of the 40 patients. Regional lymphadenopathy was demonstrable in all but 4 of those patients in whom a primary eschar was present. Generalized peripheral lymphadenopathy was demonstrated in 60 of 64 patients. Characteristic changes in the eyegrounds were found in a large percentage of the patients. Cough was also present in over half of the patients. Roentgen examination of the chest revealed the presence of pathologic changes in 24 of 40 patients. The nature and duration of positive Weil-Felix reaction (proteus OXK) are described, and a difference between the OXK titer in patients with and without primary ulcers is pointed out. Azotemia was noted during the second or third week of fever. One of the patients in the series appeared to undergo a true relapse. The mortality in the series was 1.5 per cent.

American Review of Tuberculosis, New York

52:1-88 (July) 1945

*Transient Focal Pulmonary Edema. C. B. Peirce, E. F. Crutchlow, A. T. Henderson and J. W. McKay.—p. 1.
*Bed Rest in Tuberculosis: Its Dangers and Properties. W. M. Peck and H. S. Willis.—p. 15.
Bronchography in Pulmonary Tuberculosis: V. Artificial Pneumothorax. B. A. Dormer, J. Friedlander and F. J. Wiles.—p. 21.
Acid Fast Bacilli in Nontuberculous Pulmonary Disease. R. A. S. Cory.—p. 36.
Incidence of Tuberculosis in Japanese Americans: A Study of Homogeneous Racial Group. H. E. Bass and G. D. C. Thompson.—p. 46.
Tuberculosis Survey of Food Handlers on Island of Oahu. J. E. Ferkaney and R. K. C. Lee.—p. 51.
Enzymes as Factors in Resistance to Tuberculosis: V. Catheptic Enzymes. B. Gerstl, R. Tennant and O. Pelzman.—p. 58.
Specific Cytotoxic Action of Tuberculin: Reaction of Tissues from Animals Sensitized with Heat Killed Tubercle Bacilli. Dorothy Heilman, W. H. Feldman and F. C. Mann.—p. 65.
*Chemotherapy in Experimental Tuberculosis: Tests in Vitro and in Vivo with Different Types of Agents. W. C. Cutting, L. P. Gebhardt, F. Proescher and E. Durrum, with technical assistance of H. B. Moy.—p. 73.
Sulfadiazine in Experimental Tuberculosis. C. R. Smith and F. W. Oechsli.—p. 83.

Transient Focal Pulmonary Edema.—Peirce and his associates point out that a considerable number of the reported cases and also cases in their series presented clinical symptoms and signs compatible with pulmonary tuberculosis: cough, slight to moderate malaise, loss of weight, changes in physical findings, some crepitant rales, history of exposure or indication of previous tuberculosis, some with mildly positive skin reactions. In the series observed by the authors, the x-ray studies presented sufficient characteristics to differentiate their cases from pulmonary tuberculosis. The distribution is not that commonly manifest in tuberculosis. The individual foci are usually associated with the lesser anatomic divisions or segments of the lungs but do not have a true lobular configuration. Nor is there an associated peribronchovascular infiltration toward the lung root. The amorphous character of the individual focus, the rapid migration from one portion of the lung to another without the use of connecting pathways, the transient nature with short duration are notable features. The texture of the individual roentgenographic shadow is that of a haze or cloud, sometimes so confluent over so great an amount of lung tissue as to suggest consolidation; but none have been actually dense enough to be so considered. Any atypical, evanescent, parenchymal or peritruncal shadow should be regarded with caution, especially when it does not conform to a common anatomic pattern. Such a shadow should be observed frequently over a few days to weeks. These evanescent and variable areas of increased pulmonary density are focal zones of transient pulmonary edema, probably associated with an allergic state; they are local manifestations of the individual's response to an allergen elsewhere. It is possible that, if such a state should persist long enough, a pattern suggestive of periarteritis nodosa might be established. Eosinophilia and roentgenographic pulmonary involvement are out of proportion to the clinical evidence of disease. Extreme care must be exercised to ensure that no such cases are stigmatized with the diagnosis of tuberculosis on one roentgenographic observation. Careful clinical history and physical examination are still required for diagnosis.

Bed Rest in Tuberculosis.—According to Peck and Willis, pulmonary infarction does not appear to be a danger of great consequence to the tuberculous patient who is kept at bed rest. Pulmonary infarction and embolism of the pulmonary artery were found in only 1.5 per cent of 751 necropsies on tuberculous persons. Other dangers which may be associated with bed rest in this disease are the failure (1) to obtain adequate pulmonary drainage, (2) to meet the emotional maladjustment so often present and (3) to correlate properly collapse therapy and a bed rest regimen. The evils which adhere to bed rest are incident to its mode of application. Good bed rest will avoid these dangers and retain its full therapeutic value. Poor bed rest is often therapeutically inert and can be aptly called bed fatigue. Proper bed rest should include mental repose, muscular relaxation and adequate pulmonary drainage and should not be thought of as mere regimentation in recumbency. Bed rest is inherently valuable but unreliable when administered indifferently. It warrants constant, critical attention by the physician in order to insure good results.

Chemotherapy in Experimental Tuberculosis.—Of 300 compounds tested in vitro as possible chemotherapeutic agents against Mycobacterium tuberculosis var. hominis, 39 of the more promising were tested in guinea pigs inoculated with tubercle bacilli. Although slight and irregular suppression of the infection occurred with neosynephrin sulfathiazolate, diasone and a combination of sulfadiazine and propylene glycol, in no case did this appear adequate to justify clinical trials. The beneficial results obtained have all been characterized as retardations of the disease and not as cures, although in occasional animals all lesions appeared to have been totally suppressed. Cutting and his associates think that more striking results of other investigators may be due in part to the use of much smaller inocula of tubercle bacilli and older, and hence more resistant, guinea pigs.

Anesthesiology, New York

6:337-448 (July) 1945

Ether Anesthesia with Improved Apparatus for Intrathoracic Operations Under Emergency Circumstances. W. Neff and S. Lind.—p. 337.
Some Effects of Positive Pressure Respiration During Anesthesia. P. K. Knoefel, J. P. Holt, C. Quinn, A. M. Ambrose and R. Shore.—p. 349.
Orotracheal Anesthesia for Cheiloplasty. H. C. Slocum and C. R. Allen.—p. 355.
Experience with Vinyl Plastic Endotracheal Tubes. R. A. Gordon and E. H. Ainslie.—p. 359.
Peripheral Circulatory Reactions as Basis for Evaluating Anesthetic Agents. S. G. Hershey, B. W. Zweifach, R. Chambers and E. A. Rovenstine.—p. 362.
Pentothal Sodium: Its Use in Continuous Intravenous Anesthesia and Method of Preserving It in Solution. E. J. Stevens.—p. 376.
Use of Curare in Sodium Pentothal Nitrous Oxide-Oxygen Anesthesia. J. Brody.—p. 381.
Anesthesia for Naval Air Personnel: Experiences at Naval Hospital. E. R. Ruzicka.—p. 385.
*Pentothal Anesthesia. E. Damarjian.—p. 402.

Pentothal Anesthesia.—In an evacuation hospital where pentothal was administered to more than 400 patients, it comprised about 15 per cent of all the anesthetics given. Records were kept of 200 consecutive cases. Intravenous administration of pentothal is a valuable and safe anesthetic in experienced hands. The induction dosage is variable and has no direct relation to the amount required for maintenance of the anes-

thesia. Both the induction and maintenance requirements are diminished with morphine, nitrous oxide and block anesthesia. The anesthesia can be divided into two categories, "light pentothal" and "deep pentothal" anesthesia. Light pentothal should be used for simple surgical procedures. Deep pentothal usually abolishes deep reflexes such as laryngospasm. The temperature of the solution had no effect on the anesthesia. Solutions which had been stored for some time after preparation were as effective as freshly prepared solutions and were used without apparent harmful effects.

Annals of Allergy, Minneapolis

3:163-240 (May-June) 1945

Brief Critic of Psychosomatics. C. H. Campbell.—p. 163.
Experimental Approach to Oral Treatment of Food Allergy: II. Immunologic Properties of Food Propeptans. E. Urbach, G. Jaggard and D. W. Crisman.—p. 172.
Combined Helium and Epinephrine Therapy. I. Wickner.—p. 187.
Diagnostic Value of Eosinophil in Allergic States. J. A. Mansmann.—p. 191.
*Histaminic Cephalalgia with Duodenal Ulcer. R. I. Alford and F. R. Whitehouse.—p. 200.
Asthma with Bronchial Infection Treated with Penicillin: Preliminary Report. V. J. Derbes and J. L. Wilson.—p. 204.
Urticaria Following Use of Protamine Zinc Insulin: Report of Case. R. F. Hughes and H. R. McAlister.—p. 207.

Histaminic Cephalalgia with Duodenal Ulcer.—Alford and Whitehouse treated 50 cases of headache and found that 4 were typical of histaminic cephalalgia as first described by Horton. One case of histaminic cephalalgia presented an unusual complicating feature. A man aged 34 first noticed about fifteen years ago sharp, needle-like pain, localized to the region of the right eye. This pain lasted about an hour and came at any time of the day or night. The right eye watered and became severely injected, and the right nostril became obstructed. During this fifteen year period he had had free intervals as long as three months and then again suffered from as many as three headaches in twenty-four hours. About twelve years ago he noticed attacks of gnawing pain in the epigastrium for the first time. On a number of occasions he vomited coffee ground material and several times had vomited a cup of bright red blood. Tarry stools had been observed on a few occasions. The epigastric pain was relieved by soda and food. Hospitalization on an ulcer diet usually brought relief of gastrointestinal symptoms in about two weeks. Roentgenoscopic and roentgenographic examination showed a deformity of the duodenal cap, just beyond the pylorus, and a shadow suggestive of a small crater was seen in this area. Horton reported 10 cases of histaminic cephalalgia complicated by acute duodenal ulcers with demonstrable crater formation. The authors studied the relationship between histaminic cephalalgia and the duodenal ulcer in their patient. During several attacks of headache the acid curve was high, similar to a curve resulting from the injection of histamine. During periods free from headache, the acid curve showed a low acidity. Following treatment with histamine the headache and the ulcer crater both disappeared, with no change in the essential gastric secretory mechanism.

Archives of Dermatology and Syphilology, Chicago

52:1-74 (July) 1945

Tropical Lichen Planus-like Disease. J. W. Bagby.—p. 1.
Army Air Forces Dermatology Program. J. R. Scholtz.—p. 6.
Dermatitis from Dehydration of Potatoes. S. M. Peck and H. C. Clare.—p. 9.
Urticaria from Perfume. S. J. Zakon and J. B. Kahn.—p. 11.
*Penicillin in Treatment of Cutaneous Disease. A. G. Franks, W. L. Dobes and D. Romano.—p. 14.
Is Penicillin a Photosensitizing Agent? O. Canizares.—p. 17.
Mycosis Fungoides in the Negro. H. Sigel.—p. 18.
Dermatologic Practice in Station Hospital in Southern California: Comparison with Private Practice. E. Epstein.—p. 21.
Cutaneous Leishmaniasis (Oriental Sore): VI. Treatment with Quinacrine Hydrochloride. D. A. Berberian.—p. 26.
Impetigo Bullosa in Tropics. C. S. D'Avanzo.—p. 28.

Penicillin in Cutaneous Disease.—Franks and his associates used the sodium salt of penicillin in a solution that contained from 400 to 600 Oxford units per cubic centimeter. This was applied to the affected areas as a wet dressing, so that the lesions were constantly dampened with the penicillin solution. To prevent the solution from evaporating rapidly, the saturated gauze was covered with oilcloth. For the intramuscular injections, 20,000 units of penicillin was mixed with 2 cc. of isotonic solution of sodium chloride. Penicillin was useful in the treatment of sycosis vulgaris, impetigo contagiosa and gonorrheal conjunctivitis when used locally. Whether penicillin was used intramuscularly or intravenously, it proved to be beneficial for sycosis vulgaris, pustular acne, Ludwig's angina and chronic cutaneous diseases complicated by secondary infection with pyogenic organisms. Penicillin therapy was of no value in psoriasis vulgaris, lichen planus, favus, lupus erythematosus, pemphigus foliaceus, and seborrheic and chronic fungous dermatitis.

Archives of Otolaryngology, Chicago

42:1-90 (July) 1945

Penicillin in Treatment of Patients with Deep Infections of Neck. T. R. Gaines and M. B. Hatcher.—p. 1.
Local Use of Sulfathiazole in Mastoidectomy Wounds: Satisfactory Results Observed in 30 Patients. S. B. Burtoff.—p. 6.
*Late Secondary Tonsillar Hemorrhage: I. Studies of Prothrombin and Vitamin K. H. Neivert.—p. 14.
*Acetylsalicylic Acid, Probable Cause for Secondary Post-Tonsillectomy Hemorrhage: Preliminary Report. R. Singer.—p. 19.
Causes of Deafness in Fliers. E. P. Fowler Jr.—p. 21.
Introduction of Artistic Point of View in Regard to Rhinoplastic Diagnosis. J. Daley.—p. 33.
Slight Operative Injuries of Stapes: Histopathologic Study of Case. F. Altmann and J. G. Waltner.—p. 42.
Contributions to Plastic Surgery During 1944. L. A. Peer.—p. 56.

Late Secondary Tonsillar Hemorrhage.—Tonsillectomy and adenoidectomy are not infrequently complicated by secondary hemorrhage occurring generally on the sixth or the seventh day. Neivert learned that in Europe these secondary hemorrhages are much less frequent and the difference that seemed significant was that acetylsalicylic acid is extensively prescribed in this country, as it also is in Canada and England, whereas in central Europe aminopyrine is the drug of choice. Workers in the department of biochemistry of the Wisconsin Agricultural Experiment Station showed that salicylic acid and sodium salicylate induced hypoprothrombinemia in rats kept on a ration low in vitamin K. The animals could be protected against this action of salicylic acid by administration of a vitamin K preparation. Estimations of prothrombin time done on a large number of patients at the author's hospital revealed that in some subjects a daily dose of 2.4 Gm. of acetylsalicylic acid will produce an elevation in prothrombin time on the next day, whereas in others it will be much longer before a significant rise will be discernible—but such a rise will occur eventually. These studies afford corroboratory evidence that administration of salicylates results in hypoprothrombinemia. In view of the fact that acetylsalicylic acid, by virtue of its effectiveness and its comparative nontoxicity, is the most widely used analgesic, the author thought it advisable, rather than to eliminate it, to combine it with an agent which will counteract its effect on prothrombin. The water soluble vitamin K-like compound synkayvite (tetrasodium 2-methyl-1,4-naphthohydroquinone diphosphoric acid ester) prevents this undesirable side effect of acetylsalicylic acid. The combined acetylsalicylic acid and synkayvite medication was tried on a broader scale. Only 4 among 283 patients were troubled by late tonsillar bleeding. The author concludes that while in rare cases the cause of late post-tonsillectomy hemorrhage may be trauma, menstruation, infection, deficiency of vitamin C or some blood dyscrasia, observations suggest that one of the most important factors is a reduction in the prothrombin of the blood brought about by the use of acetylsalicylic acid or salicylates.

Acetylsalicylic Acid a Probable Cause of Secondary Hemorrhage After Tonsillectomy.—Singer points out that hemorrhages that occur on the sixth or seventh day after tonsillectomy are much less frequent in the clinics and hospitals of central Europe than they are here. A comparison in the preoperative and postoperative regimens used in this country and abroad revealed only one significant difference. This was the administration in this country of acetylsalicylic acid to relieve postoperative pain. In central Europe acetylsalicylic acid is never used as a postoperative analgesic; aminopyrine is used instead. A postoperative regimen free of acetylsalicylic acid in a series of 75 cases resulted in the conspicuous absence of hemorrhagic inflammation and of secondary hemorrhage in all

instances. The prothrombin lowering effect of salicylates described by a number of authors seems to be a plausible explanation for the occurrence of secondary post-tonsillectomy hemorrhage.

Arkansas Medical Society Journal, Fort Smith

42:28-50 (July) 1945

Few Things I Have Seen and Learned in Fifty Years of Medicine. J. H. McCurry.—p. 28.
Modern Concepts of Cardiovascular Disease. C. T. Chamberlain.—p. 38.

42:51-68 (Aug.) 1945

Premature Birth and Neonatal Death in Arkansas. Frances C. Rothert.—p. 51.
Senate Bill 1161—A Menace to Medical Welfare. M. Smith III.—p. 53.
Modern Concepts of Cardiovascular Disease: Effect of Smoking Tobacco on Cardiovascular System. C. T. Chamberlain.—p. 56.

Endocrinology, Springfield, Ill.

37:1-68 (July) 1945

Quantitative Relationship Between Stilbestrol Response and Dietary "Folic Acid" in Chick. R. Hertz.—p. 1.
Further Study of Effect of Diet on Adrenal Weights in Rats. D. J. Ingle.—p. 7.
Comparative Effects of Estradiol, Diethylstilbestrol and Its Monomethyl Ether on Response of Rabbit Uterine Endometrium to Progesterone. N. T. Werthessen and S. L. Gargill.—p. 15.
Action of Thyroxin on Estrogen Induced Changes in Blood Chemistry and Endosteal Bone. Margaret R. McDonald, O. Riddle and Guinevere C. Smith.—p. 23.
Antidiuretic Potency of Neurohypophysis of Cat Following Pituitary Stalk Section. D. M. Phillips and K. Hare.—p. 29.
Effects of Several Varieties of Stress on Cholesterol Content of Adrenal Glands and of Serum of Rats. L. Levin.—p. 34.

Epidemiological Information Bull., Washington, D. C.

1:465-550 (July 31) 1945

Communicable Diseases in China During Recent Years. J. H. Fan.—p. 495.
Current Reports on Prevalence of Plague, Cholera, Yellow Fever, Smallpox and Typhus.—p. 538.

Gastroenterology, Baltimore

4:375-452 (May) 1945

*Effect of Oral Administration of "Amino Acids" on Hypoproteinemia Resulting from Bleeding Peptic Ulcer: Preliminary Report. J. S. Levy.—p. 375.
Acute Pancreatitis: Statistical Review of Recorded Experience. H. C. Robinson and F. S. Alfenito.—p. 388.
*Pathogenesis of Intestinal Polyps. J. S. Atwater and J. A. Bargen.—p. 395.
Bicarbonate and Chloride of Pancreatic Juice Secreted in Response to Various Stimuli. W. M. Hart and J. E. Thomas.—p. 409.
Gastric Excretion of Sulfonamides in Man: II. Excretion of Sulfapyridine. III. Calculation of Theoretical Concentration Ratios. H. S. Block, L. Schiff, Dorothy E. Fleming, N. Shapiro and H. H, Steinberg.—p. 421.
Gastrotomy for Trichobezoar: Case Report. J. Sarnoff and S. J. Sarnoff.—p. 426.
Bismuth Subnitrate Poisoning with Methemoglobinemia: Report of Case in Diabetic. G. E. Miller.—p. 430.

Oral Administration of Amino Acids in Bleeding Peptic Ulcer.—Eleven patients with severe hemorrhage from peptic ulcer were treated with the usual Sippy diet, to which was added a daily oral intake of from 100 to 200 Gm. of a mixture of amino acids. The serum protein returned to normal, on the average, within 10.2 days. In a control group of 6 patients who were given the Sippy diet without the addition of the amino acids the serum protein returned to normal, on an average, after nineteen days. The treatment was well tolerated. Levy stresses that the oral use of a mixture of amino acids in the treatment of peptic ulcer, especially in the presence of massive hemorrhage, has advantages; it acts as a buffer combining with acid, thus acting as an antacid; it spares digestive activity on the part of the gastrointestinal tract, and it is effective in treating the hypoproteinemia following massive hemorrhage.

Pathogenesis of Intestinal Polyps.—Atwater and Bargen studied material obtained at necropsy at the Mayo Clinic between October 1942 and February 1943. The mucosa of the entire colon was examined with a hand lens, tissues being taken from the several portions of the colon as well as from regions which aroused suspicion. Specimens and sections obtained from colons in which no abnormality could be found either grossly or microscopically were designated as "pure" controls. Some sections were obtained from colons in which polyps existed; the sections in this part of the control group were taken both adjacent to and distant from such polyps. Sections obtained from these colons were called "impure" controls. The sections displaying polyps were divided into those showing benign polyps and those showing malignant polyps. Any structure protruding in abnormal fashion above the normal mucosa, sessile or pedunculated and having a glandular character, was considered a polyp. Fibromas, myxomas, hemangiomas, lymphangiomas, lipomas or other benign tumors were not included. It was possible to trace the pathogenesis of intestinal polyps from the earliest epithelial change to frank carcinoma. One way in which polyps are formed is through epithelial change. The incidence of colonic polyps including tiny sessile lesions was 69 per cent in the 241 cases studied. No difference was found in the occurrence of polyps in the two sexes. The mean average age of patients harboring polyps was 64 years. Lymphoid structures at most seem to play only a casual role in the pathogenesis of intestinal polyps. In view of the evidence and its abundant verification in clinical experience, it would seem that the term "benign polyp" should not give the idea of an innocent tumor but rather of one stage in the pathogenesis of a carcinoma.

Indiana State Medical Assn. Journal, Indianapolis

38:209-252 (July) 1945

Acute Pemphigus: Report of Case with Recovery. R. H. Gwartney.—p. 209.
Gallbladder, Duct and Blood Vessel Anomalies. H. S. Leonard.—p. 212.
First Nitrous Oxide Anesthesia Administered by Dr. Horace Wells, Dec. 11, 1844—A Memorial. C. N. Combs.—p. 214.
Intrathecal Penicillin in Cerebral Spinal Syphliis. J. R. Thrasher.—p. 216.
Relation of Whooping Cough to Tuberculosis. M. F. Daubenheyer.—p. 220.

38:253-288 (Aug.) 1945

Medical Education. W. D. Gatch.—p. 253.
Method of Treatment of Fractures of Mandible Without Denture. A. V. Cole and E. A. Campagna.—p. 257.
Résumé of 800 Cases of Early Syphilis Treated by Five Day, Slow Drip Method. G. W. Bowman and P. E. Humphrey.—p. 259.
Prevention Clinics: Step in Cancer Control. Augusta Webster.—p. 269.

Journal of Immunology, Baltimore

50:317-396 (June) 1945

*New Method for Production of Potent Inactivated Vaccines with Ultraviolet Irradiation: II. Sterilization of Bacteria and Immunization with Rabies and St. Louis Encephalitis Vaccines. S. O. Levinson, A. Milzer, H. J. Shaughnessy, J. L. Neal and F. Oppenheimer.—p. 317.
Id.: III. Completely Inactivated Poliomyelitis Vaccine with Lansing Strain in Mice. A. Milzer, F. Oppenheimer and S. O. Levinson.—p. 331.
Distribution and Heredity of Human Blood Properties A, B, M, N, P and Rh. A. S. Wiener, Eve B. Sonn and Ruth B. Belkin.—p. 341.
Negative Phase in Antigonadotropic and Precipitin Productive Activities in Rabbits. H. R. Wolfe, R. K. Meyer and W. H. McShan.—p. 349.
Quantitative Study of Neutralization of Western Equine Encephalomyelitis Virus by Its Antiserum and Effect of Complement. Isabel M. Morgan.—p. 359.
Antigenic and Biochemical Studies of Shigella Paradysenteriae Isolated in Puerto Rico. L. M. González and P. M. Otero.—p. 373.
Production of Tetanal Toxin. J. H. Mueller and Pauline A. Miller.—p. 377.
Production of Tetanal Toxin. Edith M. Taylor.—p. 385.

New Method for Production of Potent Inactivated Vaccines.—Levinson and his co-workers have developed a new method for completely killing turbid suspensions of bacteria and viruses in less than one second by exposing continuously flowing thin films to far and extreme ultraviolet irradiation. Intensity, film thickness, time of exposure and distance have been so standardized that experiments could be duplicated with consistent results. By means of this new technic, suspensions containing approximately one billion organisms per cubic centimeter of the following bacteria were completely killed in 0.17 to 0.33 second exposure to ultraviolet rays: Escherichia coli, Eberthella typhi (strain 58), Salmonella enteritidis, Staphylococcus aureus, Streptococcus viridans and Diplococcus pneumoniae (type I). Four per cent uncentrifuged brain tissue suspensions infected with fixed rabies or lymphocytic choriomeningitis virus were completely inactivated by irradiation for 0.17 to 0.33 second; an exposure twice this length was necessary to inactivate lightly centrifuged 4 per cent suspensions of St. Louis encephalitis virus. Several lots of rabies vaccine

inactivated by this irradiation technic consistently induced a higher degree of immunity in mice than control phenolized vaccines. The irradiated rabies vaccines exhibited no significant loss of potency after six months' storage at 5 C. Two lots of St. Louis encephalitis vaccine inactivated by this irradiation technic conferred a high degree of immunity in mice. Irradiation of rabies or St. Louis encephalitis viruses beyond the optimal time necessary for complete inactivation causes progressive diminution of antigenicity.

Journal of Neurosurgery, Springfield, Ill.

22:257-364 (July) 1945

Improved Clinical Dermohmmeter. H. Jasper.—p. 257.
Studies of Electrical Skin Resistance in Peripheral Nerve Lesions. H. Jasper and P. Robb.—p. 261.
Primary Chronic Coccidioidal Meningtis Diagnostic Neurosurgical Problem. D. L. Reeves and C. F. Baisinger.—p. 269.
Use of Tantalum Foil in Subdural Space. R. C. L. Robertson and W. G. Peacher.—p. 281.
Automatic Self-Retaining Laminectomy Retractor. M. A. Glaser.—p. 285.
*Carotid Sinus Syncope Secondary to Ligation of Carotid Vessels for Intracranial Arteriovenous Aneurysm: Report of Case, with Surgical Cure: Electroencephalographic and Electrocardiographic Studies. E. Roseman, B. B. Whitcomb and F. G. Woodson.—p. 287.
Histologic Studies of Brain Following Head Trauma: I. Post-Traumatic Cerebral Swelling and Edema. J. P. Evans and I. M. Scheinker.—p. 306.
Homologous and Heterologous Transplantation of Brain and Brain Tumors. H. S. N. Greene and H. Arnold.—p. 315.
Forward Neurosurgery in Italy. H. V. Slemon.—p. 332.
Subdural Hygroma: Report of 7 Cases.—p. 340.
Experiments on Head Wounding by High Velocity Missiles. E. G. Butler, W. O. Puckett, E. N. Harvey and J. H. McMillen.—p. 358.

Carotid Sinus Syncope.—Roseman and his associates present an unusual case of a sensitive carotid sinus syncope developing after ligation of the common carotid and internal carotid arteries. The patient originally had multiple severe injuries about the head with the resultant production of an arteriovenous aneurysm of the left internal carotid artery and cavernous sinus. An unusual opportunity for follow-up was afforded by the use of the electroencephalogram and the electrocardiogram. The control electroencephalogram was characterized by the presence of high voltage fast activity, which disappeared with the abeyance of the subjective noises in the head and reappeared with the intermittent presence of the swishing sounds heard by the patient. The sensitive carotid sinus appeared on the side of the ligated carotid vessels some two months after operation and is attributed to scar tissue formation, with resultant tension stimulation of the left carotid sinus each time the head was turned to the right. Electroencephalographic and electrocardiographic tracings of the syndrome are recorded. Cure of the sensitive left carotid sinus occurred following complete excision of the carotid bifurcation.

New England Journal of Medicine, Boston

233:143-172 (Aug. 2) 1945

*Splenectomy for Acquired Hemolytic Jaundice in the Aged: Report of Case. D. F. James and L. R. Evans.—p. 143.
Development of State Child Guidance Clinics in Massachusetts. E. C. Yerbury and Nancy Newell.—p. 148.
Mycotic Infections. J. G. Downing and N. F. Conant.—p. 153.
Traumatic Esophageal Ulcer (Gavage Tube): Aspiration Pneumonia, with Multiple Pulmonary Abscesses. S. Farber.—p. 162.
Adenocarcinoma of Lung, with Metastases to Bronchial Lymph Nodes and Brain: Tentorial Pressure Cone, with Cerebral Infarction. J. Michelsen.—p. 165.

Splenectomy for Hemolytic Jaundice in the Aged.—James and Evans present the history of a woman aged 70 who developed severe hemolytic anemia. The case is of interest because it yields information on three phases of the diagnosis and treatment of hemolytic jaundice. First, the disparity among results obtained with various types of erythrocyte fragility tests deserves comment. Second, an attempt to classify the patient's anemia as either the congenital or the acquired form helps to evaluate recent studies of certain features of these syndromes. Third, the patient's advanced age at the time of onset and of splenectomy is of interest, since only 1 other case of splenectomy for hemolytic jaundice over the age of 70 has been reported in the literature. Study of the literature revealed 15 cases, including the 1 here reported, in which the onset of hemolytic jaundice occurred at or beyond the age of 50 and in which not all the essential criteria for a diagnosis of congenital hemolytic jaundice were present. The family and past histories were noncontributory. Symptoms and physical signs included loss of energy, anorexia, weakness, palpitation, shortness of breath on exertion, pallor, jaundice and enlargement of the liver and, somewhat more regularly, of the spleen. Of the 15 cases, 5 showed definite improvement after splenectomy. In 10 of the cases splenectomy was ineffective or resulted in acceleration of the downhill course. The cases reviewed demonstrate that splenectomy may save the lives of elderly persons with acquired hemolytic jaundice and that it should not be regarded as a useless procedure. Although good results following splenectomy are more likely in a patient with increased erythrocyte fragility, spherocytosis and a spleen typical of congenital hemolytic jaundice than they are in others, it is sometimes of value in patients whose clinical picture lacks one or more of these characteristics.

New York State Journal of Medicine, New York

45:1605-1710 (Aug. 1) 1945. **Partial Index**

Thiouracil: Review of Its Clinical Indications. G. W. Bissell.—p. 1643.
Cardiac Reflexes Originating in Respiratory Tract. D. Scherf.—p. 1647.
Psychiatry in Wartime—Some Recent Developments. J. Wortis.—p. 1651.
Cause of Uveitis. D. B. Kirby.—p. 1655.
Spontaneous Mediastinal Emphysema. M. H. Stein.—p. 1659.
Increased Incidence of Venereal Disease in Upstate New York. J. H. Lade.—p. 1663.
Present Status of Research in Chemotherapy of Sulfonamides, Sulfones and Related Compounds in Experimental Tuberculosis. M. I. Smith.—p. 1665.
*Dermatologic Aspects of Poliomyelitis. J. G. Reyes.—p. 1673.

Dermatologic Aspects of Poliomyelitis.—During the recent poliomyelitis epidemic in New York City, Reyes observed 84 children, their ages varying from infancy to 14 years, admitted to St. Francis Hospital with the diagnosis of poliomyelitis. The disease was more common in boys than in girls, the ratio being 5 to 1. In 98 per cent of the children lesions were located on both infrapatellar areas, on the anterior and lateral aspects of both ankle joints, on the dorsa of both feet, on both soles and on the malleoli. The lesions were symmetrical and were typically those of hyperkeratinization in the form of plaques, small papules or slightly verrucous elevations, with roughness and dryness of the skin of the legs. Lesions of these types and forms are encountered in cases of vitamin A deficiency. Their abundance seemed to be proportional to the severity of the poliomyelitic involvement, their prominence disappearing with the abatement of the disease. Among the children who were admitted for other lesions, only 1 in 8 had such skin manifestations. From the extremely high incidence of these skin lesions in poliomyelitis, Reyes deduces that vitamin A deficiency may be a predisposing factor of poliomyelitis. He advises that a diet rich in vitamin A should be given to all children, especially during the periods of epidemics, and this diet should be supplemented by cod liver oil or its concentrates. Since vitamin A deficiency will produce keratinization of the epithelium of the skin and the mucous membranes of the internal systems, it is possible that these structures which have been affected by the keratinizing metaplasia are open doors for the entrance of the poliomyelitis virus into the human body. It should be investigated whether the administration of vitamin A, either by mouth or parenterally, is of value in the treatment of poliomyelitis.

North Carolina Medical Journal, Winston-Salem

6:309-352 (July) 1945

Roentgenologic Aids in Differential Diagnosis of Acute Abdominal Conditions. J. P. Rousseau and L. M. Morris.—p. 315.
Review of Recent Ideas Concerning Diarrhea in Infants. M. J. Carson.—p. 323.
Vagitus Uterinus During Continuous Caudal Analgesia. A. T. Thorp.—p. 327.

6:353-394 (Aug.) 1945

Retraction and Constriction Rings. P. Rucker.—p. 353.
Pneumococcic Meningitis in Children, with Report of 4 Cases. D. P. Boyette and W. L. Venning.—p. 359.
Management of Prostatic Conditions in the Aging. L. H. Baretz.—p. 364.
Maintenance of Employee Health at North Carolina Shipbuilding Company. C. B. Davis.—p. 366.
Whooping Cough Immunization in North Carolina. C. P. Stevick.—p. 369.

Oklahoma State Medical Assn. Jour., Oklahoma City

38:277-318 (July) 1945

Thymus Gland and Its Relationship to Myasthenia Gravis. C. H. Campbell and J. M. Campbell.—p. 277.
Some Gynecologic Conditions Arising in Cervix and Their Treatment. K. J. Wilson.—p. 280.

38:319-360 (Aug.) 1945

Association of Latent Vertical Phoria with Endocrine Dyscrasia. E. H. Coachman.—p. 319.
Anal Fistula. P. M. Vickers.—p. 323.

Physiological Reviews, Baltimore

25:377-572 (July) 1945

Relation of Adrenalin to Acetylcholine in Nervous System. J. H. Burn.—p. 377.
Intermediary Metabolism of Fatty Acids. W. C. Stadie.—p. 395.
Effects of Dietary Deficiencies on Oral Structures. I. Schour and M. Massler.—p. 442.
Physiologic Effects of Sunlight on Man. H. F. Blum.—p. 483.
Present Status of Problem of Thermal Burns. H. N. Harkins.—p. 531.

United States Naval Med. Bulletin, Washington, D. C.

45:1-205 (July) 1945

Tape Method of Skin Grafting. S. G. Berkow.—p. 1.
Post-Traumatic Hemothorax Management. E. M. Kent and H. E. Tebrock.—p. 14.
Plastic Technic in Surgery of Peripheral Nerves. G. V. Webster, C. H. Shelden and R. H. Pudenz.—p. 22.
Use of Hanging Casts in Compound Fractures of Humerus. H. B. Macey and M. B. Coventry.—p. 33.
Arteriovenous Aneurysm of Brain. B. E. Konwaler.—p. 37.
Adult Circumcision: Report of 354 Operations on Naval Recruits. R. L. Fruin and C. W. McLaughlin Jr.—p. 42.
*Buffer Precipitation Test for Malaria. E. Bogen.—p. 47.
Malaria Epidemic Aboard LST. T. Cooper and A. L. Wessels.—p. 54.
Quinine and Atabrine: Development and Present Application. E. H. Hudsoon.—p. 57.
*Egg Allergy: Significance in Typhus and Yellow Fever Immunization. H. B. Sprague and J. H. Barnard.—p. 71.
Simple Local Treatment for Throat Infections. H. H. Rosenthal.—p. 75.
Warnings in Use of Penicillin. N. S. Scarcello.—p. 77.
Leukocyte Counts in White and Negro Recruits on Sulfadiazine Prophylaxis: Comparative Study. L. E. Eckles and A. M. Weckstein.—p. 80.
War Wound Infections: Battle Casualties from Saipan Campaign, with Special Reference to Infection Due to Clostridia. P. Michael.—p. 83.
Myocardial Infarction: Roentgen Diagnosis. L. H. Garland.—p. 89.
Mumps Orchitis, with Discussion of Plasma Prophylaxis. S. Candel, M. C. Wheelock and G. J. Grimaldi.—p. 97.
Pyelonephritis: Its Newer Concept and Clinical Significance, with a Review of Literature. P. J. Fitzgerald.—p. 108.
*Replantation of Teeth. R. H. Alexander.—p. 126.
Simple Technic for Simple Fractures of Mandible. A. J. Lilly.—p. 135.
Neuropsychiatric Experiences in Advance Base Unit. K. Kelley.—p. 140.

Buffer Precipitation Test for Malaria.—Bogen states that in troops returning from the South Pacific repeated smears taken over a long period of time may be negative, yet months later chills may recur or even appear for the first time. Microscopic studies usually fail to disclose such latent infections. A variety of immunologic technics have been proposed for the diagnosis of malaria, but the difficulty in obtaining specific antigens and the variability of the results obtained have precluded their general use. In 1939 Wolff of Colombo, Ceylon, reported that blood serum added to buffered distilled water became cloudy at a higher p_H in malaria than in normal controls. The following year he described a simple buffer precipitation test, using only a few drops of serum and requiring little technical labor. The reaction is apparently due to a euglobulin which arises in the blood of malaria patients. Wolff found that normal human blood serum added to distilled water at p_H 7.7 remains clear, but blood serum from malaria patients becomes cloudy. From this observation the buffer precipitation test has been developed. More than 3,000 such tests made at the author's hospital have confirmed the validity of this reaction. The reaction is strongest in active malaria between paroxysms and in recently recovered patients but remains positive for many months. The test offers valuable aid both in individual diagnosis and in the detection of malaria in large groups. It may have interesting possibilities in suggesting prognosis, in guiding suppressive and therapeutic measures and in evaluating cures.

Egg Allergy.—Sprague and Barnard point out that extremely sensitive allergic egg reactors may develop serious and possibly fatal allergic reactions if inoculated with the vaccines of yellow fever and typhus which are cultivated in chick embryo or yolk sac tissue. Each person should be asked if he is sensitive to egg before being given typhus or yellow fever vaccine. Persons with an egg sensitivity history should be skin tested with diluted egg white and egg yolk. If they show negative skin tests to 1:10 dilution, it is believed that the vaccine can be given safely. The knowledge of severe immediate reactions to ingested egg since childhood was a prominent feature in the histories of 2 cases reported by the author. This sensitivity is often only one manifestation of a generalized allergic state. If the sensitivity is discovered, it would appear wise not to submit them to inoculation of vaccines containing chick embryo products.

Replantation of Teeth.—Alexander defines replantation as the reinsertion of a tooth in its original socket from which it has been dislodged either by accident or by design. Replantation of dislodged anterior teeth can be done painlessly and quickly. Splinting or wiring of the tooth need be maintained for only three to five weeks. If the tooth is not devitalized before replantation, periodic check-ups by x-ray and vitality tests should be made. Should there be unfavorable developments, such as putrescence or pain, the tooth can be devitalized. The shorter the time between dislodgment and replantation, the better the chances for reattachment of the tooth.

Wisconsin Medical Journal, Madison

44:673-740 (July) 1945

Abdominal Fistula of Appendical Origin. E. W. Schacht.—p. 673.
Heart Disease in Children from Pediatric Viewpoint. S. F. Morgan.—p. 676.
Pyogenic and Tuberculous Empyema. R. M. Davison.—p. 679.
Differential Diagnosis of Rheumatoid Arthritis. M. C. Borman.—p 684.
Value of Routine Tuberculin Tests in Children. F. E. MacInnis.—p. 688.

44:741-840 (Aug.) 1945

*Vasodilation in Treatment of Rheumatoid Arthritis: Use of Nicotinic Acid for Such Therapy. C. M. Kurtz, O. S. Orth and G. Sepulveda.—p. 761.
Hospital Autopsy. L. J. Van Hecke.—p. 765.
Experiences with Penicillin Therapy at State of Wisconsin General Hospital. C. J. Thill and O. O. Meyer.—p. 771.
Present Status of Early Treatment of Poliomyelitis. J. A. Toomey.—p. 780.
Circulatory and Renal Lesions Following Sulfonamide Therapy: Clinical and Pathologic Considerations. M. L. Carns and G. Ritchie.—p. 785.
Tuberculosis Control in General Hospitals. M. Joannides.—p. 789.

Nicotinic Acid for Vasodilatation in Rheumatoid Arthritis.—Kurtz and his associates used nicotinic acid to produce vasodilatation in treating 36 patients with rheumatoid arthritis. In addition, 6 patients with osteoarthritis have been given at least one course. Among the 36 patients with rheumatoid arthritis there were only 7 in whom the disease had existed less than two years. In most of the patients the disease had steadily progressed despite varied types of therapy. Twenty-eight of the 36 patients were bedridden. The initial intravenous injection consisted of 200 cc. of a solution of 0.05 per cent nicotinic acid in isotonic solution of sodium chloride. If this was well tolerated, 400 cc. of a 0.05 per cent solution was given daily thereafter. In most instances this produced a feeling of warmth or prickling and a visible flushing of the skin lasting approximately an hour. If the flush was of shorter duration or the patient developed a tolerance to the drug, the strength of the solution was increased to 0.1 per cent. The solution was injected by slow drip requiring from one to three hours for completion. One patient was encountered who reacted with nausea, emesis and mild cyanosis, so that further treatment with nicotinic acid was not attempted. The most satisfactory method of oral administration was to give 50 mg. of nicotinic acid every fifteen minutes for three doses before breakfast and again later in the day, either before lunch or before supper, and before retiring. The drug was always administered when the stomach was empty. In some cases the oral dose had to be increased from 50 to 100 or 200 mg. In the group of 35 patients with rheumatoid arthritis significant improvement was determinded subjectively and objectively in 25 and 26 patients respectively.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1:831-864 (June 16) 1945

Diodoquin for Chronic Amebic Dysentery in Service Personnel Invalided from India. C. Morton.—p. 831.

*Restoration of Diphtheria Immunity Without Injections: Toxoid Pastilles by Mouth. G. Bousfield.—p. 833.

*Observations on So-Called Thyrotropic Exophthalmos. H. Zondek and A. Ticho.—p. 836.

Hepatic Enlargement with Ascites in Children. A. L. McFarlane and W. J. Branday.—p. 838.

Dark Adaptation Studies in Patients with Diseases of Skin. A. Porter and E. W. Godding.—p. 840.

Toxoid Pastilles by Mouth for Restoration of Diphtheria Immunity.—Bousfield conceived the idea of a fairly firm gelatin sweet or pastille containing about 100 Lf units of formaldehyde toxoid, suitably flavored with some neutral agent such as peppermint. He tried the effect on himself, sucking four of the toxoid disks daily for seven days, without experiencing inconvenience. After additional observations on volunteers, he tried the effect on children. The method seems to be generally effective in subjects who have a demonstrable amount of antitoxin in the blood or who are definitely known to have reached the Schick negative level at some time in the past. Rises in serum antitoxin content are striking in some of the cases. While there is no evidence that the method will suffice to provide an adequate stimulus for primary immunization, it appears to be generally applicable to children and adults who have ever been immune in the past, provided the age and intelligence of the subject are sufficient to ensure that the disks are sucked slowly. Modification of the technic might still render primary immunization feasible. The treatment can be administered to immune and nonimmune subjects impartially without fear of producing local or general reactions, and thus, in cases which are known to have been immune in the past, a Schick test is not essential before using this method of reimmunization. While attractive to needle shy children, the greatest value of such a method might be in dealing with adults—e. g. nurses or men in the services—when it is so important that constitutional disturbance shall be avoided.

Thyrotropic Exophthalmos.—Zondek and Ticho describe 3 cases of exophthalmos which, according to the present classification, would have been designated as thyrotropic exophthalmos. The ophthalmic manifestations were of particularly severe degree. Two of them presented severe decalcification of the skull bones and enlargement of the sella turcica; this finding points to involvement of the pituitary-diencephalic region. In both cases there were diabetic dextrose tolerance curves. The abnormally high blood cholesterol level in 2 cases argued against hyperthyroidism. All 3 cases responded favorably to diiodotyrosine. In 1 case (postoperative exacerbation of the exophthalmos) diiodotyrosine, in combination with pituitary irradiation on two occasions, resulted in considerable improvement of the eyes (such as regression of proptosis and disappearance of chemosis and epiphora) and thus rendered surgical intervention unnecessary. In view of the fact that the part played by the thyrotropic hormone in the production of this type of exophthalmos is doubtful, while that of the pituitary-diencephalic system seems to be highly probable, the looser definition of "pituitary-diencephalic" exophthalmos is suggested.

1:865-896 (June 23) 1945

*Toxicity of 2,2-bis (p-Chlorphenyl) 1,1,1-Trichlorethane (DDT). G. R. Cameron and F. Burgess.—p. 865.

Acute Poisoning Due to Petrol Vapor. J. S. Lawrence.—p. 871.

Monoarticular Osteoarthritis of Hip: Treatment by Acid Injection. W. G. Waugh.—p. 873.

Torsion of Pedunculated Gastric Cyst. M. D. Sheppard and J. R. Gilmour.—p. 874.

Pathology of Ruptured Plantaris. G. B. Jones.—p. 876.

Toxicity of DDT.—Cameron and Burgess state that American investigations and their own experiments with DDT suggest that there is a wide margin of safety in its use as an insecticide. There is no reason to anticipate danger to man provided a maximum concentration of 0.5 per cent of DDT is insisted on for sprays. Only gross carelessness would be likely to lead to serious features. Even with long continued exposure to such sprays it is difficult to see how ill effects would be incurred. On the other hand, men handling higher concentrations should take precautions against skin contamination. Cleanliness is essential, the use of gloves and protective garments advisable. In spraying concentrates the use of respirators is advocated. Dry powders of DDT present no danger of absorption from the skin. It is only when oily solvents are employed that such risks are likely to arise, and here again there is much variation according to the type of solvent used. Ample warning of the approach to toxic levels is given in the form of anorexia, muscular weakness and fine tremors. If at this stage DDT is discontinued, complete recovery is the rule in animals. Even when liver damage has developed, a fatal issue is not necessarily inevitable if further DDT absorption is prevented. Difficulty arises when liver degeneration sets in without premonitory symptoms or associated nervous signs, and a fatal degree of hepatic insufficiency may be reached without warning. The authors have learned to attach importance to rapid decrease in body weight in such instances. Other features of value in assessing toxic absorption are the development of anemia and leukocytosis. A rise in blood calcium may also be suggestive. Prolonged contact with undergarments impregnated with DDT has not produced local or general disturbances in human subjects.

Lancet, London

1:775-806 (June 23) 1945

*Storage of Skin for Autogenous Grafts. D. N. Matthews.—p. 775.

*Management of Traumatic Pyothorax. J. L. Collis, M. H. A. Davison and P. S. Smith.—p. 778.

Treatment of Rickets with Single Massive Doses of Vitamin D. D. Krestin.—p. 781.

Blood Acid Phosphatase in Prostatic Cancer. S. Wray.—p. 783.

Penicillin Sensitivity of Hemophilus Influenzae: Two Sensitive Pathogenic Strains. P. Forgacs, R. I. Hutchinson and R. E. Rewell.—p. 785.

Storage of Skin for Autogenous Grafts.—Skin storage reduces the number of donor areas needed in multiple stage plastic repair. The patient is saved the pain of second or even third donor areas, which often cause more pain than the field of operation during the first forty-eight hours. The duration of each operation, after the first, is also lessened by the time it would have taken to cut a fresh graft. A spare piece of skin is available in case the graft partially fails. Stored skin can provide an experimental skin bank for investigating the problems of heterogenous grafting. A standard method has been developed for the storage of skin in a refrigerator which maintains a temperature of from 3 to 6 C. The graft is folded with its raw surfaces opposed as far as its shape allows. It is wrapped in a piece of tulle-gras and this in turn in a piece of gauze tightly wrung out of isotonic solution of sodium chloride. It is then placed in a sterile air tight screw topped glass bottle having a cubic capacity of 20 cc. It is held away from the small amount of fluid which collects in the bottle by insertion of a ring of rubber tubing or leadfoil for it to rest on. The power of growth of stored skin was proved by tissue culture of skin stored for eight days. Some of the refrigerated grafts were found to be sterile; others were infected with the normal contaminants of the skin, but despite the survival of these organisms on the grafts they had no harmful effects even after storage as long as seven months. The contact coagulum method of fixation has been employed to hold the stored grafts in position when their application at the bedside without an anesthetic has prohibited the insertion of stitches for pressure dressings. Matthews reviews the results of the first fifty grafts of stored skin. There is a possible relationship between refrigeration and increased resistance of the skin to infection.

Management of Traumatic Pyothorax.—The 44 cases on which Collis and his associates base their report are instances of total or almost total pyothorax and do not include cases of early infected hemothoraces in which the fluid present never became frank pus. The number is not large relative to the total of 710 admissions to the unit, but the high mortality of 27 per cent (12 cases) emphasizes its importance. Experience

has led the authors to believe that a localized empyema is sometimes unavoidable but that total pyothorax, with the possible exception of cases associated with esophageal injury or very virulent organisms such as hemolytic Clostridium welchi, is an avoidable condition. Provided pulmonary expansion is effected and is maintained from the onset of treatment, infection can produce only a localized empyema. The authors differentiate between cases of closed and of open pyothorax. In cases of closed pyothorax aspiration is carried out for the first few days, penicillin being introduced into the pleura after aspiration on alternate days. A portion of the ninth or tenth rib is then resected, all clot removed and drainage instituted just under the lateral edge of the erector spinae. Breathing exercises are started at once. A method of two tube drainage, with an additional apical tube, allows the cavity to be washed out and prevents the drain from becoming blocked.

Quarterly Journal of Medicine, Oxford

14:57-124 (April) 1945

Psychogenic Basis of Some So-Called Rheumatic Pains. J. Flind and H. S. Barber.—p. 57.
Anemia Associated with Unidentified Erythrocytic Inclusions After Splenectomy. A. M. Pappenheimer, W. P. Thompson, D. D. Parker and Katharine E. Smith.—p. 75.
*Congenital Afibrinogenemia: Report of Case with Review of Literature. J. L. Henderson, G. M. M. Donaldson and H. Scarborough.—p. 101.
Nephrocalcinosis Associated with Hyperchloremia and Low Plasma Bicarbonate. G. H. Baines, J. A. Barclay and W. T. Cooke.—p. 113.

Congenital Afibrinogenemia.—Henderson and his associates think that there is still too great a tendency to regard congenital "bleeders" of the male sex as hemophiliac without adequate clinical and laboratory investigations having been made to eliminate other possible causes of the hemorrhagic diathesis. They report a case of congenital afibrinogenemia in an otherwise healthy boy of 11 years. Only 6 other cases of this disease have been recorded in the literature, but it seems probable that complete investigation of all congenital "bleeders" would reveal more cases. The principal clinical features of congenital afibrinogenemia are its hereditary character, a high incidence of consanguinity in the parents, the susceptibility of both sexes, a total absence of fibrinogen in the blood, complete incoagulability of the blood, a bleeding time which is usually prolonged, a great reduction of capillary resistance, a low blood sedimentation rate and intermittent thrombocytopenia. Treatment of the severe hemorrhage is by intravenous transfusion with whole blood or nonprocessed plasma. Absence of fibrinogen is regarded as the principal cause of the hemorrhagic diathesis in congenital afibrinogenemia, but diminished capillary resistance may be a contributory factor. Four cases of congenital hypofibrinogenemia which have been recorded in the literature are reviewed. The principal distinction between congenital afibrinogenemia and congenital hypofibrinogenemia is that no clotting occurs in afibrinogenemia, whereas it is normal in hypofibrinogenemia.

Presse Médicale, Paris

7:81-92 (Feb. 17) 1945

*Marbled Blanching of Part of Extremities, Alarm Sign of Ischemia. R. Leriche.—p. 81.
Histologic and Clinical Correlations in Toxic Diffuse Goiter. J. F. Martin and P. Guinet.—p. 82.
Anticoagulating Action of Derivative of Coumarin: Application in Phlebitis. C. Olivier and M. Mattei.—p. 83.

Marbled Blanching as Alarm Sign of Ischemia.—Leriche thinks that marbled blanching is not usually given the attention it deserves. It does not as a rule occur alone but with accompanying signs, which are likewise neglected. It indicates irremediable ischemia. Sympathetic anesthesia, intra-arterial injection of procaine and ganglionectomy do not have any effect on it, because sudden marbled blanching and coldness of the hand or foot is always caused by a material obstruction in the circulation. Direct intervention at the involved point of the artery is an absolute necessity. Generally, marbled blanching occurs suddenly and without pain. The peripheral part is white and cold up to a certain point, where without transition the skin is warmer than on the opposite side. At the same time the extremity is insensitive; analgesia is absolute until the patient attempts to move it. The peripheral pulse cannot be felt if this triad of symptoms is present. The author has seen marbled blanching after simple fractures of the elbow and of the lower third of the leg. The contused artery or arteries are rapidly thrombosed. Operating on the second day, Leriche has found the posterior tibial artery thrombosed and the anterior tibial artery compressed by an extensive ecchymotic infiltration. Resection of the posterior tibial artery, freeing of the anterior tibial and reduction of the fracture saved the foot. Marbled blanching is observed also in embolism, but in this case it does not last long; violet spots soon appear. He has not observed marbled pallor in arteritis, but he has seen the aforementioned triad in massive thrombosis of aneurysm. He has collected 6 cases of this type, of which he describes 1, in which the popliteal aneurysm was first removed and later a low amputation was done. This was better than an immediate amputation above the aneurysm, that is, in the thigh. Leriche stresses that in the sudden massive ischemic states, such as in embolism, prompt removal of the obstacle will save the extremity from amputation.

Sang, Paris

16:77-140 (No. 2) 1944. **Partial Index**

*Study of Megakaryocytic Aleukemic Myelocytosis. R. Delcourt. —p. 77.
Acute Benzene Anemia Developing During Typhoid: Rapid and Total Cure. C. Richet, Lesueur and Duhamel.—p. 91.
Acrodynia and Polyadenopathy: Microscopic Study of Lymph Node. J. Marie, R. Umdenstock and H. Bricaire.—p. 94.
Evolution of Eosinophilia in Course of Ancylostomiasis. G. Lavier and L. C. Brumpt.—p. 97.
Diagnosis of Aplastic Anemia in Childhood: Subacute Medullary Lymphoblastic Cryptoleukemia. J. Chaptal and P. Cazal.—p. 102.
Bone Marrow in Cancers: Attempted Physiopathologic Interpretation. C. Albahary.—p. 110.
Response to the Communication of Albahary on Sternal Puncture in Course of Cancers. L. Mallet.—p. 117.
Cancerous Erythroblastic Anemias. R. Gorin.—p. 118.

Megakaryocytic Aleukemic Myelocytosis.—According to Delcourt the term megakaryocytic aleukemic myelocytosis is applied to a syndrome which in its complete form presents hepatomegaly, splenomegaly, subicterus or mild icterus, anemia, myelemia and normoblastosis, and severe myeloid and megakaryocytic reactions in the spleen, the liver and often the lymph nodes. The formation of multinuclear cells in the hepatic sinusoids frequently and the continuation of these with Kupffer's cells occasionally can be demonstrated. The nosologic place of megakaryocytic aleukemic myelocytosis is difficult to establish. The characteristic microscopic lesions group the syndrome with the reticuloses. Like these, megakaryocytic aleukemic myelocytosis is a rare disorder and its clinical diagnosis is difficult. The hematologic signs which accompany it occur in other blood dyscrasias, particularly in the erythroblastic anemias or in anemias resulting from bony spread of a cancer. Punctures of hemopoietic centers do not always show the pathognomonic element, the megakaryocyte. In the majority of cases diagnosis is not definite until after death. Exceptionally it may be possible to make the diagnosis by means of biopsy of the liver and spleen. The author reports a case of megakaryocytic aleukemic myelocytosis, in which there was intense erythroblastic reaction in the peripheral blood and hemopoietic centers. The patient, a woman aged 68, died, the immediate cause of death being an acute cardiac insufficiency. Necropsy revealed a pronounced myeloid reaction of the spleen with the formation of numerous megakaryocytes. This reaction was less severe and less systematized in the liver. The pleokaryocytic cells which were found there seemed to have an autochthonous origin at the expense of Kupffer's cells. There exist a transport of myeloid cells and of typical megakaryocytes to distant organs such as the thyroid, the parathyroids and the hypophysis. This is responsible for the formation of an important myelomegakaryocytic focus in a hemorrhagic cyst of the thyroid. In the treatment of this disorder only general tonics are possible, and their usefulness is relative. Splenectomy is contraindicated. Irradiation is ineffective. Although a constitutional factor cannot be excluded, megakaryocytic aleukemic myelocytosis seems to be a toxic infectious syndrome of multiple causes.

Book Notices

A Handbook of Psychiatry. By Louis J. Karnosh, B.S., Sc.D., M.D., Associate Clinical Professor of Nervous Diseases, School of Medicine, Western Reserve University, Cleveland, Ohio. With the collaboration of Edward M. Zucker, A.B., M.D., Clinical Instructor in Nervous Diseases, Western Reserve School of Medicine, Cleveland, Ohio. Cloth. Price, $4.50. Pp. 302, with 40 illustrations. St. Louis: C. V. Mosby Company, 1945.

Dr. Karnosh is associate professor of nervous diseases at Western Reserve University and director of neuropsychiatry, Cleveland City Hospital. Dr. Zucker is clinical instructor in nervous diseases at Western Reserve University and associate in neuropsychiatry at Cleveland City Hospital. As such both men have had extensive experience in neuropsychiatry as clinicians and teachers. The purpose of this handbook, as stated in the preface, "is to function as a faithful delineator of fundamental information on its particular subject and as a stimulating guide to further and more detailed study and investigation." This handbook should succeed in meeting both requirements. The book is well written. The bibliography is good although not very extensive (many excellent papers and books by well regarded writers on dynamic psychiatry have been omitted). Although the book contains only 302 pages including the index, the purpose for which the book was written has been adequately fulfilled. Probably the weakest chapter in the book is the one on psychosomatic medicine, which is finding such a prominent place in medicine today. The authors have ignored much of the research work that has been done in this field during the last decade. The chapters which relate to examination of the mental patient, management and observation of the mental patient and the purely descriptive material of categorical classification are particularly good. The chapters devoted to traumatic psychoses and psychoses with pathologic changes in the brain are also clearly and interestingly written. There is nothing in this handbook that is overtly controversial. Any differences in theory or practice related to different schools of psychiatry are presented without argument. The reader is left to read and arrive at his own conclusions. The book is recommended to students and graduates of medicine for exactly the purpose quoted in the preface.

Deep Massage and Manipulation Illustrated. By James Cyriax, M.D., B.Ch., Assistant Medical Officer, Physiotherapeutic Department, St. Thomas's Hospital, London. Cloth. Price, $4.50. Pp. 242, with 98 illustrations. New York & London: Paul B. Hoeber, Inc., 1945.

This book deals exclusively with the technic employed and the results obtained from the penetrating effect of friction massage on deep-seated tissues. The technic described is that of deep friction over the site of the lesion, "which may or may not be within the painful area outlined by the patient." Heat is not given preceding this procedure; in fact, the author definitely states that he does not use it. He emphasizes the importance of diagnosis and the utilization of this technic "when a deeply situated soft structure has to have its mobility restored. . . . Hence traumatic or rheumatic lesions—both acute and chronic—of muscle, fascia, tendon, ligament and, sometimes, joint-capsule provide almost the only indications for deep friction."

Dr. Cyriax's method differs from the one used in this country. In the United States circular technic is used with the thumb over the lesion, while his method uses a deep transverse friction by means of the middle and index fingers, largely the middle finger. The purpose of this method is to free adhesions by "the mobilization of tissues in a way that exercises do not achieve."

The book is in two parts. The first part (18 pages) deals with the principles and technic of deep massage and manipulation. There are short chapters on (1) the scope and purpose of deep massage, (2) the principles governing the use of deep massage, (3) position of the physical therapist and her hands, (4) the physical therapist's working day, and (5) the action of massage. Part two (221 pages) has 98 full page plates. Each illustration has a page which describes the nature of the lesion, frequency, indication, the patient's posture, technic, duration of treatment and results. The descriptions are in summary form, and the illustrations clearly describe the technic. Both are well done.

Undoubtedly there are conditions in which the use of this vigorous technic is indicated; but, as Dr. Cyriax himself warns, there are dangers. "The use of deep friction, since it cannot fail to be painful, is justified only by the fact that it possesses great curative powers when applied to the right spot in the right way. If, then, damage is to be avoided, no question of deep friction can arise until two conditions are fulfilled—the first that the physiotherapist knows how to give it, and the second that she knows exactly where. Thus, the technically competent physiotherapist must be given a diagnosis precise in detail."

Unless the prescribing physician gives a diagnosis that is precise in detail, and the physical therapist knows how to apply the technic to the right spot in the right way, extreme caution should be used in introducing this method because of the danger of aggravating the original condition.

Character-Analysis: Principles and Technique for Psychoanalysts in Practice and in Training. By Wilhelm Reich. Translated by Theodore P. Wolfe. Second edition. Cloth. Price, $4.50. Pp. 328, with illustrations. New York: Orgone Institute Press, 1945.

This book is an English translation of Reich's book of the same title published in Germany in 1933. As the jacket states, the book is intended for "students and practitioners in psychoanalysis." The book is not recommended to physicians or laymen who are not extremely well oriented in this specialty. There is much in the content of a controversial nature. The author takes a superior, almost condescending attitude toward most psychoanalysts, including Freud, whom he appears to condemn with faint praise. While there may be and probably is valuable material of careful thought and investigation contained in the contents of this volume, the subjects discussed should be strictly confined to serious students of dynamic psychiatry. Other readers will only be confused and bewildered by Reich's scientific jargon.

The Sexual Revolution Toward a Self-Governing Character Structure. By Wilhelm Reich. Translated by Theodore P. Wolfe. Cloth. Price, $3.25. Pp. 273. New York: Orgone Institute Press, 1945.

This volume, like Character-Analysis, represents an English translation of a German production published in 1930. Also, like Character-Analysis, this book will prove neither valuable nor even interesting to any one who is not well oriented in psychoanalytic theory and practice. Reich may or may not have some valuable, advanced and constructive ideas. Only time and careful investigation of clinical material will prove whether his deduction, conclusions and what sometimes appear to be fantastic correlations are sound. Like most of Reich's books and papers, this volume is overloaded with "terminology," and even experienced psychoanalysts are liable to get lost in the maze of reichian clichés and attempts at new and original phraseology. The book is extremely confusing, but it is possible that something of value may eventually materialize as a result of Reich's studies. His books, however, are strictly for advanced students.

Psychiatry in Modern Warfare. By Edward A. Strecker, A.M., M.D., Litt.D., Professor of Psychiatry and Chairman of the Department, School of Medicine, University of Pennsylvania, Philadelphia, and Kenneth E. Appel, Ph.D., M.D., Sc.D., Assistant Professor of Psychiatry and Chief of Clinic, School of Medicine, University of Pennsylvania, Philadelphia. Cloth. Price, $1.50. Pp. 88. New York: Macmillan Company, 1945.

A short, factual and sound statement of the psychiatric problems in modern warfare. The main part of this little volume deals with a comparison of the methods and utilization of psychiatric practice in the two world wars. Etiology, symptomatology, frequency, treatment and prognosis of the main psychiatric conditions encountered in the armed forces are given in a concise and readable manner. It is surprising that full utilization of psychiatry was not made by the armed forces until late in the war. Demobilization with attendant problems are thoughtfully stated in the last third of the book. Many valuable suggestions for physicians, psychiatrists, social workers, employers and others concerned with helping the veteran return to civil life will be found. It is a well written book that gives an epitome of the authors' vast experience and knowledge in a special field of psychiatry.

The Psychology of Women: A Psychoanalytic Interpretation. Volume II: Motherhood. By Helene Deutsch, M.D., Associate Psychiatrist, Massachusetts General Hospital, Boston. Cloth. Price, $5. Pp. 498. New York: Grune & Stratton, 1945.

This is the second volume of a comprehensive study of the psychology of women by a woman psychiatrist. The author is not only an excellent clinician but possesses great ability in writing of her extended clinical experience. The first volume contains a superior and exhaustive study of the psychologic development of women from early childhood to adolescence. Volume II is an equally comprehensive scientific investigation of motherhood. Reproduction with all its psychologic, social and biologic aspects is carefully and clearly discussed in simple, easily understandable language. Three chapters at the end of the book are devoted to discussion of psychologic problems of unmarried mothers, stepmothers and women who have adopted children. Many well known together with new or rarely recognized dynamic psychologic formulations are convincingly illustrated in this work by a wealth of clinical material. The clinical material is so well presented by Dr. Deutsch that the reader has little difficulty in following and agreeing with the correctness of her dynamic conclusions. There is an extensive bibliography and adequate index. Assembling, discussing and formulating this truly scientific treatise was unquestionably a major undertaking. The result is well worth the effort involved.

Cinchona in Java: The Story of Quinine. By Norman Taylor. With an introduction by Pieter Honig. Cloth. Price, $2.50. Pp. 87, with illustrations. New York: Greenberg, Publisher, 1945.

This is the story of quinine, told in an interesting style by Norman Taylor, known to garden lovers as the editor of the Garden Dictionary and other popular works but equally familiar to those interested in drugs as the director of the Cinchona Products Institute, an organization devoted to the promotion of quinine.

The history of the discovery of the medicinal value of the bark of the various species of the cinchona tree, the attempts to transport cinchona seedlings from Peru into other tropical countries principally by the Dutch and English, the conquest by the Dutch of the extraordinary cultural and genetic problems involved in the propagation of the most productive species, Cinchona ledgeriana, the international trade rivalries for the quinine market and the effect of the introduction of cinchona cultivation on the economic life of Java is a fascinating tale. Unfortunately for romanticists, Mr. Taylor tells us that the familiar story about the Countess of Chinchon is another piece of historical fiction. The antimalarial value of cinchona bark appears to have been first discovered by the Jesuit priests at Lima about 1630. For more than two centuries thereafter the world obtained its cinchona bark from South America. But it soon became evident, particularly to the Dutch and English, that the South American bark production could not keep pace with world demand, particularly since the natural South American cinchona preserves were being ruthlessly stripped without replanting and cultivation. Almost simultaneously both British and Dutch interests initiated cinchona projects. It is a tribute to Dutch perseverance that its efforts were finally crowned with success. Ironically the seedlings that proved to be best were obtained by the Englishman Charles Ledger and bought by the Dutch after the English had refused to take them.

But science is a fickle mistress, and it appears highly probable that atabrine and other newly developed synthetic antimalarials will diminish the importance of Ledger's stock, which is rich in the quinine alkaloid, and enhance the value of the spurned varieties which are abundant in quinidine, cinchonine and cinchonidine. There is little prospect that synthetic quinine or quinidine will have an important commercial influence on the situation.

The author undertakes to discuss malaria and its treatment, but one would never guess from his account that there was anything else than quinine available. It is a question whether the work might not have been a more clever piece of propaganda if the writer had at least given in passing "honorable mention" to atabrine and the critically important role it played in World War II.

There is no question that the Dutch have been handsomely rewarded for their work in making an ample supply of quinine available to the world. But some believe the reward has been too great and that they have created an essentially evil monopolistic control over an article essential to human welfare. Those who share this point of view, and particularly some of our zealous public prosecutors, owe it to themselves, if they are intellectually honest, to read this able presentation of the case for the Dutch.

Principles of Psychology for the Basic Course in Nursing. By Rev. J. Edward Rauth, O.S.B., Ph.D., and Sister M. Maurice Sheehy, R.S.M., R.N., Ph.D., Assistant Professor of Nursing Education, Catholic University of America, Washington, D. C. Cloth. Price, $2. Pp. 200, with 18 illustrations. Milwaukee: Bruce Publishing Company, 1945.

This small book, by faculty members of the Catholic University, undertakes to provide material to be used as points of departure for discussions in the teaching of nurses. In highly condensed form the authors have endeavored to give a little of the essential material about the nervous system and much more about mental functioning. The result is a brief outline that should meet the purpose the authors intended, that is, as an aid to teachers of psychology. Taken by itself, however, the work has the basic weakness inescapable when those genetic considerations that offer the basis for the understanding of personality structure and human relationships are ignored, as they are by the authors. A nurse really cannot be helped to understand very much about her patient as a human being through a psychology that fails to give a consistent account of the growth and development of the emotional and social life through childhood and of the real life relationships people meet. She may learn quite a few psychologic concepts and get some awareness of how people adjust and fail to adjust, but she does not get what the foreword of the book correctly asks for: a psychology with a "soul." This refusal of many psychologists to deal with the simple facts of human existence, of family and social relationships, is understandable in view of traditional taboos and prejudice. The following misstatement (page 124) perhaps makes the point most simply: "Freud and his followers base the development of various personality traits on accidental experiences of a sexual nature in early childhood." No one familiar with the development of dynamic psychology would quote this archaic concept in this form. If the teachers of psychology really wish to teach a psychology invested with "soul," a positive approach to the real life experience of human beings is necessary. This is not offered in the work by Rauth and Sheehy.

Illustrations of Bandaging and First-Aid. Compiled by Lois Oakes, S.R.N., D.N. Third edition. Fabrikoid. Price, $2. Pp. 272, with 300 photographs and coloured supplement. Baltimore: William Wood & Company, 1944.

A valuable textbook for teaching the art of bandaging. Numerous good photographs show clearly each step in the application of bandages to the injured parts of the body. Triangular and roller bandages are thoroughly described. It is regretted that so little mention is made of the use of adhesive bandages, since they enjoy wide use in this country. The sections on shock and first aid in hemorrhage are given in the briefest outline. Mention of the elementary physiology involved would have been both more instructive and more interesting reading. The section on first aid to fractures contains no information on the use of splints, particularly on the improvisation of splints from materials at hand. Photographs showing how to lift patients to a stretcher and the moving of patients are welcomed additions to the new edition.

Clinical Atlas of Blood Diseases. By A. Piney, M.D., M.R.C.P., and Stanley Wyard, M.D., F.R.C.P. Sixth edition. Fabrikoid. Price, $5. Pp. 138, with 48 illustrations. Philadelphia: Blakiston Company, 1945.

This edition of the pocket size atlas of blood diseases is a valuable and practical guide for the physician, technician or medical student. There are 48 excellent color plates of the different blood diseases. Opposite each plate there is a concise summary of the known facts on etiology, symptoms, blood findings, diagnosis and therapy. There are four pages on hematologic technic. There is an eight page glossary and index. This book is unexcelled as a small atlas of hematology.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

VITAL CAPACITY

To the Editor:—**I am interested in the question of vital capacity, its estimation and its significance. None of the books in my small library seem to contain the necessary information for estimating it. I would appreciate references.**

Ray S. Wycoff, M.D., Lexington, Neb.

ANSWER.—The maximum volume of air that can be exhaled after a maximal inspiration is called the vital capacity and represents an estimate of the total air content of the lung. An approximate relationship exists between vital capacity and total height: The vital capacity expressed in cubic centimeters is approximately twenty-five times the height in centimeters for man, twenty times for women, twenty-nine times for athletes and fifteen times for children. The measurement is easily accomplished with an ordinary spirometer. The standing patient is instructed to exhale as much air as he can after he has made a maximal inspiration. The rate of expiration should not be too slow or too rapid. Care should be taken that all the air exhaled goes into the recorder. The nose should be closed and the exhalation should be by mouth. It is important that the test be correctly made, and it must be performed two or three times after the patient is clearly instructed. Accuracy depends on the subject's cooperation and so is in part subjective. Variations in the same person at different times are more significant than deviations from the standard. Vital capacity can be increased within limits with proper exercises. It is reduced in many diseases, especially those involving the cardiovascular and respiratory systems. It measures the elasticity of the lungs in heart failure and so gives an idea of the pulmonary vein engorgement.

The test is generally used to study the status and the evolution of a case of pulmonary tuberculosis or heart disease but adds little to the record of the symptoms and physical signs. Breath holding time is a simple bedside method of obtaining similar information.

References:

Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 3, Baltimore, Williams & Wilkins Company, 1943.
Fishberg, A. M.: Heart Failure, Philadelphia, Lea & Febiger, 1937.
Wiggers, C. J.: Physiology in Health and Disease, ed. 4, Philadelphia, Lea & Febiger, 1944.

CONGENITAL EXOPHTHALMOS

To the Editor:—**A patient has congenital exophthalmos of an extreme degree. His brother, one sister and his mother have the same condition. Is there any one who does corrective surgery for such a defect?**

M. A. Shillington, M.D., Montana.

ANSWER.—Any surgery performed for congenital exophthalmos must depend, of course, on the basic condition that is causing the protrusion of the eyeballs. Before a decision is reached as to the advisability of surgery, careful roentgenologic studies of the anterior skull are essential as well as an exhaustive examination of the possible degree of flaccidity of the extraocular muscles. If the correction is to come through surgery on the orbit, such work can be done by any capable neurosurgeon.

OLIVOPONTOCEREBELLAR ATROPHY

To the Editor:—**A patient shows strong evidence of the neurologic syndrome designated under the term olivopontocerebellar degeneration. This man of 41 has for the past year been troubled by ataxia of the hands, a cerebellar type of speech defect and a cerebellar type of ataxia. There is no nystagmus and this, I believe, is in keeping with the diagnosis mentioned. The abdominal and cremasteric reflexes are absent, and the patient occasionally has diplopia. These last findings made me consider multiple sclerosis as a possibility, but in addition to the rather late onset the patient's real anxiety about himself in contrast to the typical mild euphoria so common in multiple sclerosis points strongly to a degenerative disorder of the olivopontocerebellar type. His negative spinal fluid findings are also consistent with the latter. I consulted a number of reports on olivopontocerebellar disease; in fact, every available reference in the medical school library. Some of these reports give much detail concerning morbid anatomy, but I can find little about prognosis. Some of the patients lived and apparently avoided serious disability for as long as fifteen or even twenty years, while in other cases the progress of disability was rapid and death occurred in a year or two. Is there any information not available to me on the prognosis in this condition? From the nature of the underlying pathologic condition I do not feel optimistic as far as therapy is concerned and I am merely wondering if any one has any ideas that might be tried more or less experimentally.**

Hervey M. Cleckley, M.D., Augusta, Ga.

ANSWER.—This case, no doubt, belongs in the group designated as olivopontocerebellar atrophy. Recently this term has been used to include Marie's ataxia, Sanger-Brown's ataxia and Gordon Holmes ataxia, because each are incomplete forms of one and the same process. This condition is thought to be a heredodegenerative disease, although sporadic cases are occasionally seen. Pathologically there is atrophy of the inferior olives, the nuclei pontis and their fiber pathways leading through the middle and inferior peduncles into the cerebellum. The symptoms described fit in well with the cases of olivopontocerebellar atrophy or degeneration. The prognosis is poor for cure but not for life. There is no known treatment for this condition.

References:

Keiller, William: Four Cases of Olivopontocerebellar Atrophy Giving a History of Heredity, with Three Autopsies, *South. M. J.* **19:** 518 (July) 1926.
Hassin, G. B., and Harris, T. H.: Olivopontocerebellar Atrophy, *Arch. Neurol. & Psychiat.* **35:** 43 (Jan.) 1936.
Stone, T. T.: Primary Familial Degeneration of the Cerebellum, *J. Nerv. & Ment. Dis.* **78:** 131 (Aug.) 1933.
Ferguson, F. R., and Critchley, M.: A Clinical Study of a Heredofamilial Disease Resembling Disseminated Sclerosis, *Brain* **52:** 203 (July) 1929.

CONTACT LENSES FOLLOWING CATARACT OPERATION

To the Editor:—**Can a young woman who has been operated on for congenital cataracts wear contact lenses without causing harm or injury to her eyes? She wears bifocal lenses at the present time.**

Martin F. Crotty, M.D., Cambridge, Mass.

ANSWER.—Ophthalmologists are fairly unanimous in the opinion that contact glasses cannot produce harmful results, with the possible exception of their use by patients with high myopia, in whom the trauma of introducing and removing contact glasses might possibly lead to detachment of the retina. Contact glasses are worn by many younger persons who have been operated on for cataract and are successful in such cases. The unfortunate feature is that seldom can they be worn for longer than four to six hours at a time.

PREMENSTRUAL SKIN IRRITATION

To the Editor:—**A woman aged 30 complains of itching over the entire body two weeks prior to and until menstruation is established. There is a slight breaking out between the breasts and on the vulva, also a full feeling and tenderness of the breasts. The patient is well and apparently normal except for slight attacks of asthma due mostly to bleaching substance in washing clothes and occasionally to a few other irritants. Would estrogenic substance be indicated or what treatment is advised?**

M.D., Iowa.

ANSWER.—It is probable that the symptoms described are based on an excessive amount of estrogenic substance. Therefore the administration of this material is contraindicated and would probably aggravate the situation. For the same reason androgen may do some good by neutralizing some of the excess estrogenic substance. It would be well to give not more than 200 mg. a month in order to avoid unpleasant side effects.

RADIUM TREATMENT OF CANCER OF THE TONGUE

To the Editor:—**Could you give me an idea about the use of radium seeds in a malignant growth on the tongue? What are the statistics, if any?**

Paul R. Howard, M.D., Oak Park, Ill.

ANSWER.—Cancer of the tongue can be successfully treated with both radon seeds and radium needles. The scarring produced is minimal, and the function after the treatment is usually much better than that obtained with the more radical surgical procedures. The estimation of dosage and the determination of implantation patterns require some skill, and the best results are obtained by experienced radiologists. Improper technics may produce bone damage and painful sloughs. Cancer of the tongue frequently metastasizes to the cervical lymph nodes early, and this complication must be watched for and adequately treated at an early stage in each case. The five year salvage for all stages of the disease varies from 26 to 33 per cent in various clinics, and 60 per cent of five year cures has been reported for early lesions measuring less than 2 cm. in diameter. Good results with implanted sources of radiation have been reported by Regaud, Cade, Berven, Hayes Martin, Kaplan, C. L. Martin and others.

INJECTIONS OF DISTILLED WATER

To the Editor:—1. Is the therapeutic use of sterile distilled water approved for intravenous use to replace fluid loss in patients, and if so, what is the maximum safe amount that can be given? 2. If not, what harmful effects might result?

M.D., Pennsylvania.

ANSWER.—1. Therapeutic use of distilled water for intravenous use has never been approved by any agency.

2. The harmful results are more theoretical than real, but there appears to be no basis for preference for water over isotonic solution of sodium chloride. Any condition demanding water probably would demand salt also. One physiologist has taken, by continuous intravenous injection, 500 cc. of distilled water without lowering the blood count below his own experimental error. No subjective effects were noted; there was mild hemoglobinuria. Theoretically there could be hemolysis of injurious degree. The reason this is not more serious is that injected water is promptly mixed with blood, so that the degree of hypotonicity is reduced and hemolysis occurs only at the point of injection. Yet there is still no reason for preferring distilled water unless it might be that emergencies may arise when salt solution is not available. In that case, slow injection of water over a period of time might be done. In general, there is no sense in the suggestion. It is never desirable to reduce a physiologic safety factor if it can be avoided.

COUGH DUE TO ALLERGY

To the Editor:—I have a cottage at a summer resort where the nights are gratifyingly cool but where the atmosphere is exceptionally damp; the humidity is often 80 to 90 per cent. Last summer my daughter, now 18 months old, developed a dry irritating cough which lasted until a month or so after we returned to our regular home. This summer, within a week after moving to the summer cottage, she is again coughing. I am extremely allergic, but the baby has shown no other definite indications of allergy. Can the cough be due to the high humidity? If so, is it probable that this may be an etiologic factor in any serious respiratory trouble, such as bronchiectasis? Is the sensitivity likely to decline in the future? Most of the residents at the resort have no complaint, but now and then some one will come for a short time and leave because of the humidity.

M.D., Illinois.

ANSWER.—A dry irritating cough, present under the conditions described during two successive summers and continuing for a month after returning to the all year round home, is not likely to be due only to high humidity. An allergic basis is more likely. Mild asthma or bronchial irritation may be considered preasthmatic. The following possibilities should be considered: (1) pollen sensitivity (grass pollens and ragweeds); (2) mold sensitivity, either in conjunction with pollen sensitivity or as a primary cause of the allergy; (3) environmental factors present in overwhelming amounts in the summer cottage not in such abundance in the regular home (various house dusts or animal emanations). This last is the least likely of the three possibilities but should be looked for as a possible explanation of symptoms.

CANCER, ARTIFICIAL MENOPAUSE AND LIBIDO

To the Editor:—A married woman aged 35, without children, has been separated from her husband for about three years. Her height is 5 feet 4½ inches (163 cm.) and weight 110 pounds (50 Kg.). Her parents are living and well, as are also 8 brothers and sisters. The patient is the eldest in the family. Her past history is normal: the appendix was removed at 4 years; there was drainage, but a good recovery was made; there was no severe peritonitis. The tonsils have been removed. There have been no pregnancies. The patient's habits are good; neither liquor nor tobacco is used. In December 1944 she had some irregular bleeding; in March 1945 a diagnosis by biopsy was made of carcinoma of the cervix. Radium was used in the standard amount by a doctor in Salt Lake City, who explained to the patient that she would have an artificial menopause and that no children could be had by any subsequent marriage. The patient now complains that she lacks sexual desire, response to her fiancé and so forth and asks whether anything can be done to restore the former normal libido. Is it safe to administer estrogenic substance by needle or by mouth, as ethinyl estradiol or diethylstilbestrol? Would such hormones be likely to restore the feeling of well being and sexual desire formerly experienced?

M.D., California.

ANSWER.—In the normally menstruating woman frigidity and lack of libido constitute a psychologic problem and not an endocrine one. In women from whom the ovaries have been removed, however, the decline in sexual desire may be reestablished through the administration of estrogens. Nevertheless, for this patient estrogens are contraindicated since, as the Council on Pharmacy and Chemistry of the American Medical Association has declared, a familial or personal history of a cancer in the generative organs is a contraindication to the use of estrogens. Estrogens are not directly carcinogenic, as is the case with certain coal tar derivatives and other compounds, but by stimulating the growth of the sexual tissue they may influence these tissues to develop a malignant condition where there is a genetic tendency toward such changes. The androgens testosterone propionate or methyl testosterone may be administered to such a patient, since these compounds will relieve to some extent the menopausal symptoms and at the same time cause an increase in libido. As a matter of fact, it has been demonstrated that testosterone compounds may increase the sexual desire of many women even with normal menstrual cycles, probably through the enlargement of the clitoris, since this organ responds to androgens. The dosages recommended are 25 mg. of testosterone propionate twice weekly until a response is obtained, and then the dose may be diminished to a maintenance level. Methyl testosterone may then be used to maintain the therapeutic response conveniently, since this material is administered by mouth.

CONGENITAL ANOMALY OF UMBILICAL VEIN

To the Editor:—I operated on a patient recently who had a split in the falciform ligament of the liver; i. e., the round ligament (containing the obliterated umbilical vein), instead of forming the lower free edge of the falciform ligament as it normally does, ran alone from the under surface of the liver to the umbilicus. Above this was an empty gap, and above this was the falciform ligament of the liver. I have been unable to find any references to this rare embryologic defect. Would you be kind enough to help me?

M.D., California.

ANSWER.—In an article by H. L. Trimingham and John R. McDonald entitled "Congenital Anomalies in the Region of the Umbilicus" (*Surg., Gynec. & Obst.* **80**:152 [Feb.] 1945) it is stated that "the umbilical vessels converging at the umbilicus persist, normally, as the two obliterated hypogastric arteries, and the ligamentum teres of the liver's falciform ligament. It is doubtful whether this process is ever subject to pathologic aberration." Other references have not been found which in any way relate to the condition described in the inquiry.

SULFONAMIDES AND TRANSFUSIONS OR INFUSIONS

To the Editor:—Spink's book on the sulfonamides advises against the simultaneous use of the intravenous preparations of the sulfonamides with blood transfusion and parenteral glucose. For how long a period is either of these procedures interrupted if sulfonamide compounds are given intravenously? One hour? Two hours? Also can two different sulfonamides be given to the same patient? Are there any contraindications? For instance, a patient receives sulfamerazine (one or two doses) and then, being unable to get the sodium salt of sulfamerazine, one is forced to use sodium sulfadiazine intravenously on account of the serious condition of the patient.

M.D., Ohio.

ANSWER.—Further experience with the sulfonamides indicates that there is no contraindication to the simultaneous parenteral administration of the sulfonamides with transfusions of blood, plasma and infusions of solutions of glucose and sodium chloride. The original recommendation of not giving the sulfonamide simultaneously with other preparations was a precautionary measure. If patients should experience a systemic reaction there would be some difficulty in ascertaining whether or not it was due to the sulfonamide or to a transfusion or infusion. The possibility still exists that confusion might arise under these circumstances, particularly in patients who may have become sensitized to the sulfonamides.

There is no contraindication to the administration of two sulfonamides as illustrated. Sodium sulfadiazine may be given in place of sodium sulfamerazine. Subsequent doses of any sulfonamide following initial treatment with another sulfonamide should be regulated according to the sulfonamide blood levels.

SULFONAMIDES AND PROPHYLAXIS OF SCARLET FEVER

To the Editor:—Is it advisable to use the sulfonamides as a prophylaxis for contacts of scarlet fever patients?

M.D., California.

ANSWER.—Favorable reports have come from military sources with regard to the use of the sulfonamides for controlling streptococcic infections. Many physicians in private practice use the sulfonamides with prophylactic intent for scarlet fever contacts. Nevertheless patients while on sulfonamide therapy have been known to develop scarlet fever, and there are some resistant types of hemolytic streptococci against which the sulfonamides are ineffective. The question of sensitivity to the sulfonamides may also deserve consideration. For scarlet fever prophylaxis convalescent scarlet fever serum is preferable to the use of the sulfonamides.